

Los Angeles

SCIENCE AND INDUSTRY

MANUFACTURERS RECORD

JAN 12 1937

Reg. U. S. Patent Office



JANUARY, 1937

BALTIMORE, MD.

RESPONSIBILITY

Speakers at recent business conventions have dwelt upon the social responsibility of industry, and the conception of service rather than profits as an ultimate aim.

In this certainly there could have been no intention to imply that industry has been wholly unmindful of its obligations in the past. Plants that were kept open during the depths of depression, and mainly to provide employment, while surpluses dwindled prove the contrary.

Other speakers referred to the desirability of industry telling the story of what it has accomplished for the common good.

It would be timely, and industry has a story of constructive endeavor to relate—a story of work and risk in exploring new fields for the benefit and material profit of all.

A complete understanding of what industry has accomplished in this country for the progress of our civilization in all its ramifications, social and material, would go a long way to dispel employer-employee class feeling, which has been fostered of late.

ON THE GROUND

Airport

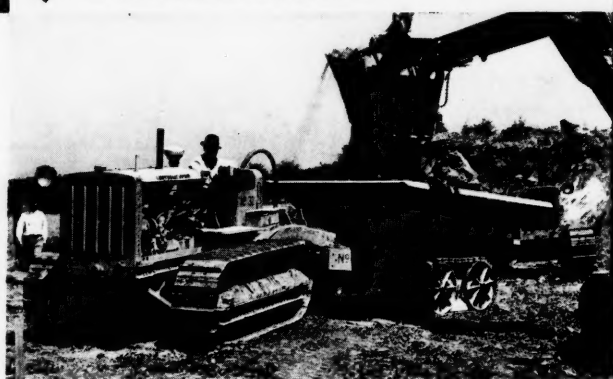
LOOKS TO "CATERPILLAR"



On the Tri-City airport project near Johnson City, Tennessee, 9 "Caterpillar" Diesel Tractors moved 1,750,000 yards of rock and dirt, pulling big wagons and scrapers. 43 yards per hour was the production of each of the Diesels that hauled 1100 feet from the shovels.

For every airship hour in the air, there are ten hours of work on the ground. Airports must be built and maintained, equipment must be moved, loads must be hauled. When fast ships finish their runs, dependable "Caterpillar" Diesel Tractors haul them to the hangars, then go to work on other jobs. Busy every day!

And whenever there are new airports to be built, among the most industrious helpers are "Caterpillar" Diesels. So everywhere . . . when earth is to be moved, loads to be hauled, tough weather and ground conditions to be met . . . you'll find cost-cutting "Caterpillar" Diesel Tractors at work — handling scrapers, wagons, rooters, bulldozers, road-builders. And the same engines that enable "Caterpillar" Diesel Tractors to set performance and economy records, also power compressors, shovels, pumps, lighting generators, refrigeration plants, service and industrial machinery of all kinds.



GET THE FACTS. Let a "Caterpillar" dealer show you actual figures proving the low cost of "Caterpillar" Diesel power on jobs similar to yours. There's a dealer near you — with factory-trained service men and stocks of machines and parts.

CATERPILLAR

REG. U. S. PAT. OFF.

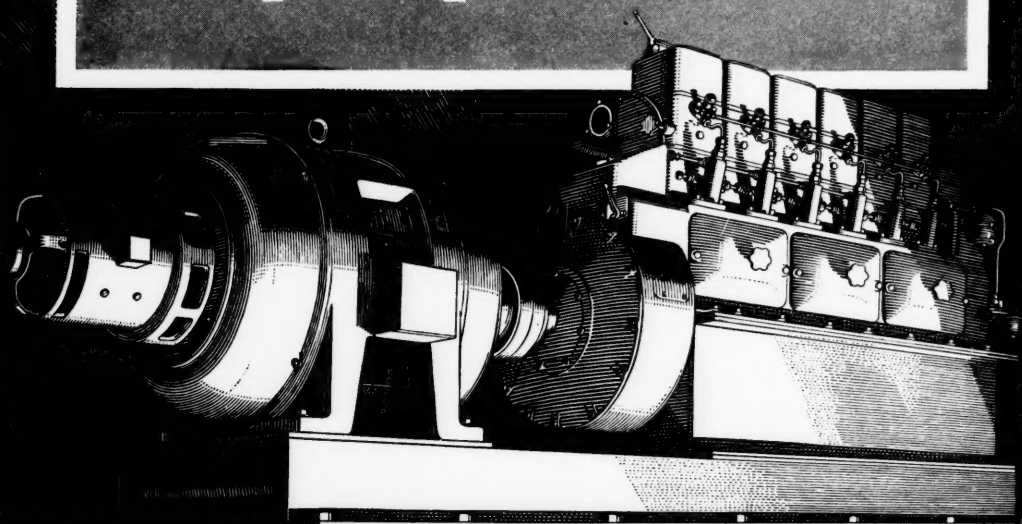
TRACTOR CO. PEORIA, ILL.



**WORLD'S LARGEST MANUFACTURER OF DIESEL ENGINES,
TRACK-TYPE TRACTORS AND ROAD MACHINERY**



...want to
cut your power costs?



This Compact, Portable Fairbanks-Morse Diesel Generating Unit Generates Power at Very Low Cost—Often Pays for Itself out of Savings in an Extremely Short Time.

If your monthly bills for power are too high . . . or if obsolete gas, oil, or steam engines are eating a large hole in your operating budget, it's time to see what the F-M "36" can do for your plant.

For here is Diesel power in its lightest, most compact form. Twice as efficient as gasoline-powered engines. And costs considerably less to operate. Simple and foolproof, it will run all day long with little supervision—and deliver depend-

able, low-cost power for less than $\frac{3}{4}$ c per horsepower hour in the average installation. Mount it permanently or use it in portable service—which ever best suits your needs.

Designed and built by America's leading manufacturer of Diesel engines. Write for Bulletin D-31, Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill. 34 branches at your service throughout the United States.

6887-0A40.115

FAIRBANKS

POWER · PUMPING
AND WEIGHING
EQUIPMENT



MORSE
Diesels

Entered as second-class matter at the postoffice, Baltimore, Md., under the act of March 3, 1879, Volume CVI, No. 1 Monthly

JANUARY NINETEEN THIRTY-SEVEN

6
3



A New "Oregon Trail"

Coos Bay Bridge, North Bend, Oregon.
Total length of main steelwork, 1708 feet.
Length of anchor arm spans, 457½ feet.
Length of center span, 793 feet.
Clearance under suspended span, 152 feet.
Conde Bascom McCullough, Engineer.

The two anchor arm spans were erected first,
followed by the suspended span in the middle.



There is a wide span from the Oregon Trail and Covered Wagon of the early pioneers to the new Oregon Coastal Highway which invites and intrigues the Motorist of today. But it is the same spirit to push forward and to build.

The Coos Bay Bridge is the longest and most important link in this new highway. The main steelwork for the 1708-foot span was fabricated and shipped from our Memphis plant.

We build big bridges and big buildings but you can be sure of no less careful attention and handling of your smallest requirement in steel construction.

VIRGINIA BRIDGE COMPANY

Roanoke Birmingham Memphis Atlanta
New York Charlotte Dallas El Paso
Plants at Roanoke, Birmingham, Memphis.

VIRGINIA BRIDGE

S T E E L S T R U C T U R E S

MANUFACTURERS RECORD FOR

TABLE OF CONTENTS

**JANUARY
1937**

Volume CVI No. 1

1937
R 670 v. 106

MANUFACTURERS RECORD

Devoted to the Upbuilding of the
Nation Through the Development
of the South and Southwest as the
Nation's Greatest Material Asset

Published Monthly

by the
**MANUFACTURERS RECORD
PUBLISHING CO.**

Frank Gould, President

Main Office: Manufacturers Record Building, Commerce
and Water Streets, Baltimore, Md. Phone: Plaza 7080-1.

Branch Offices:

New York—11 W. 42nd St. Phone: Longacre 5-7180.

Chicago—28 East Jackson Blvd., Room 1510
Phone: Harrison 5867

Cleveland, Ohio—1745 Wymore Ave.
Phone: Glenville 2275

Subscription Rate: \$2.00 a year (in advance). Single
copies, 25c; back numbers, one to six months, 50c each;
over six months, \$1.00. Combination rate for Manufac-
turers Record and Daily Construction Bulletin, \$11.00
a year.

Subscribers are asked to notify us of change in
address to avoid delay in service.

**PUBLISHERS DAILY CONSTRUCTION BULLETIN AND
BLUE BOOK OF SOUTHERN PROGRESS**

Member
A.B.C.

JANUARY NINETEEN THIRTY-SEVEN 10 1935



\$3,500,000 Wabash Railway Bridge, St. Charles, Mo.

EDITORIALS

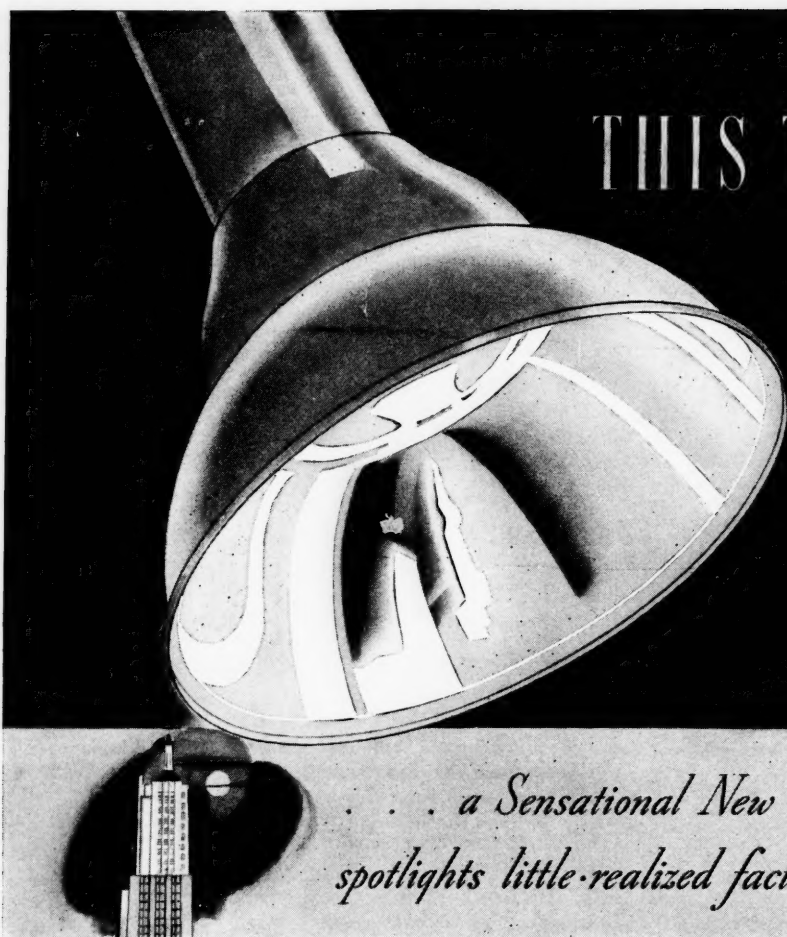
Responsibility	Cover Page
An Inspiring Picture	19
As Congress Meets	20
Money for Commerce	20
Fair Play	21

NEWS and FEATURE ARTICLES

Southern Financing for Southern Industry By Robert M. Hanes	22
1936 Recorded Great Progress in the South	23
Best Textile Year Since 1929	24
Hosiery Shipments Top 1929	26
Rayon Development Continues	26
\$60,000,000 for New Kraft Mills	27
Southern Mines Share in Increased Coal Output	28
By J. V. Sullivan	
The Rising Trend of Southern Municipal Bonds	29
By Edwin S. Gardner	
Gas and Petroleum Industry Advances	30
Continued Demand in Electrical Field	30
By F. A. Merrick	
Greater Production of Sulphur By Langbourne M. Williams, Jr.	30
Southern Sugar Growth Limited by Government Quota Regu- lations	31
By Reginald Dykers	
Southeast Sets Recovery Pace	32
By Leigh R. Powell	
Fertilizer Outlook in the South	33
By Charles J. Brand	
Food Processing	33
Opportunity for the Cotton South	34
By Walter Parker	
East Mississippi Prepares for Growth	34
\$21,000,000 Expenditures During 1937 by Georgia Power Co.	35
Makes World's Largest Marble Sawing Mill	35
Tin Container Industry Grows in South	35
\$939,264,000 Total Awards Top Past Years Construction ..	36
Iron and Steel Expansion	40
Rising Demand for Steel	40
By Frank Cordes	
The Outlook Is Bright for the Southern Pine Industry	42
By H. C. Berckes	
Southern Cypress Mills Active	42
By Benjamin Ellis	

SPECIAL DEPARTMENTS

Iron, Steel and Metal Markets	40
Lumber News of the Month	42
Good Roads and Motor Transport	44
Equipment—New and Improved	46
Financial News	48
Industrial News	52
Trade Literature	54
Index for Buyers	74
Index of Advertisers	76



THIS TIME IT'S THE FINISH

... a Sensational New Type of Reflector
spotlights little-realized facts about Aluminum

● Sensation of the reflector industry is the new Alzak* Aluminum reflector, now being featured by several manufacturers.

It's news, because it is a good reflector that stays good.

The original reflection efficiency (as high as 85%, depending on type) is maintained under severe conditions of temperature and exposure because the patented finish is flint hard, and unaffected by ordinary abrasion. It is not affected by moisture, nor by common forms of corrosive attack. It is easily cleaned with soap and water.

What a reflector! What a finish!

The final, hard surface comes from an electrolytic treatment called the Alumilite process.* It gives Aluminum the hard surface which is so valuable on cafeteria trays, streetcar handrails, automobile pistons, and innumerable other ap-

* Patented

plications. The surface appearance may be varied by process control; it may even be dyed to obtain beautiful color effects.

If you are looking for eye-appeal, this may be the answer. Or it may solve other surface problems for you.

You can get eye-appeal a hundred other ways with Aluminum. With eye-appeal you may also get unusual corrosion resistance, abrasion resistance, or new and interesting surface textures. No other metal, few other materials, possess such infinite possibilities for variety.

It takes a whole book to describe the high spots of the many methods of finishing this versatile metal. Send for it. Use it. And count on help from us, too, whenever you say the word. Aluminum Company of America, 2109 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA  ALUMINUM

• Manufacturers Record •

AN INSPIRING PICTURE

THE panorama of Southern industry presented in this issue of the MANUFACTURERS RECORD is an inspiring one. This is not alone from the viewpoint of business betterment and progress, but from the confidence reflected in the South's assured future, its unmatched resources, and its opportunities.

Wholesale and retail business in the South, as the year closed, was at the rate of sales of 1929, which reached \$15,373,000,000 wholesale, and \$11,562,000,000 of retail sales.

The estimated value of manufactures is \$6,700,000,000; approximately \$1,600,000,000 is the value of minerals, and \$3,300,000,900 value of production from agriculture, making a gross volume of basic productive capacity of the Southern states for 1936, \$11,600,000,000.

With \$939,000,000 total construction awards in the South last year, an all-time high record was set for new engineering and building operations. As indicating the extent of work to be done in the immediate future, contracts to be awarded, as reported for the last two months of 1936, aggregate in excess of \$300,000,000.

Contracts let by private owners reached \$454,000,000 in 1936 for construction work.

In general industrial and engineering, total contracts let in the South in 1936 were \$644,500,000.

Industrial plant construction amounted to \$322,000,000 for the year, the largest total on record for the South.

In various lines of enterprise the following impressive amounts are being spent:

\$60,000,000 for new kraft paper and linerboard mills.

\$50,000,000 for plant expansions and improvements on the part of the gas and petroleum industry—justified by increased petroleum consumption, an 18 per cent gain in natural gas sales, and 11 per cent gain in manufactured gas sales in the first eleven months of 1936.

\$22,000,000 authorized for textile improvements in plants, machinery and buildings.

Add to this the contracts for the expansion of the iron and steel industry in new plants and extensions that will cost more than \$54,000,000, and it will be seen that in this fundamental industry there is no lack of belief in the opportunity ahead for Southern iron and steel.

Large sums are being put in food processing plants, and there is no field where it is more needed, because the South spends a billion dollars annually beyond its borders for food supplies which it could very well and profitably raise and preserve itself.

The power output of Southern public utilities has gone beyond all records.

Southern mines are getting their share of the increased demand for coal, and there is marked improvement in the lumber industry, with comprehensive studies and plans under way not only of markets and their demand, but for conservation of supply. In other words, a healthier condition than has been seen for some time.

There are articles in this number on most of these subjects. This is a brief sketch of the high spots that are brought out in greater detail by industrial authorities pre-eminent in their fields.

As indicating how financial markets are valuing Southern bonds, the strong position today of Southern municipal and state securities is set forth in another article. From January 1935, when the average interest yield of the bonds of seven Southern states and 13 representative Southern cities was over 4 per cent, there has been a steady increase in the market price, and a consequent decline in the interest yield to the investor, until today these same bonds, representing a fair section of the entire Southern municipal and state bond market, yield less than 3 per cent. This has been influenced by the adoption of measures by legislatures and city governments of budgetary control and better management on the part of those in charge of public affairs who are becoming alive to the need for putting their obligations on a better basis in the financial markets of the world.

AS CONGRESS MEETS

It is anticipated there will be introduced at this session of Congress a variety of legislative measures which will have an important bearing on business policies and operations. Efforts no doubt will be directed to bring the operations of government, changed temporarily by an emergency, into better permanent organization.

A great deal of the emergency legislation previously enacted will expire during the coming year. What will be continued in its present form; what will be changed, and to what extent it will be changed, have a most important effect upon orderly progress.

Business men will scan the program as to what will be done in regard to taxes. Government revenues are derived from taxation, but business men oppose the number of cumbersome, costly methods now in effect. They believe that some of them add unnecessarily to the extensive list of jobholders and impose costly and laborious efforts upon business establishments in having to prepare complicated tax forms of various kinds.

While sympathetic with the idea of helping the unemployed and the needy who are too old to work, they want to see a reduction in the money paid to such "wards of government" as are healthy and able to work.

Will the NRA be revived? Some may favor it in modified form, but the majority of business men feel business will prosper better without it. It is practically impossible to administer such a law with anything like the restrictions of the former NRA without inducing monopolistic and price fixing practices, and without increasing misunderstanding between employers and employees.

What is to be the government's power policy? Is the TVA idea to extend all over the United States? The effect upon investors in private utilities is a vital matter not to be disregarded because of the thought some hold that electric current should be furnished by the Federal Government at a rate below what current can be produced on a commercial basis and without taking into account the cost to the taxpayer of what is involved in the government's generosity.

Legislators who look to the permanence of our institutions will do well to have in mind the implications and far reach of decisions on not alone these primary topics alluded to briefly, but a longer list, too large to mention in detail here, all of which, as said above, affect directly or indirectly every interest in the country, individual and corporate, and reach into the lives of all the people. These legislators have in their charge the leadership and handling of the affairs of the country at a crucial point in American history. Business will anxiously await the course of events at Washington.

While recognizing industry's part in the country's progress as to employing the idle, the grave responsibility resting upon Congress is not to be overlooked. Too many laws tending to confuse and impede activity have been adopted, and without proper debate or consideration. Congressional action has seemed at times to be based on the idea of punishing all industry.

MONEY FOR COMMERCE

IN an article by Robert M. Hanes, President, Wachovia Bank and Trust Co., Winston-Salem, N. C., printed on another page, it is shown that the banks of the South probably have available for commercial loans, at reasonable rates, \$3,000,000,000. Bankers of various sections complain that seasonal borrowings on the part of commercial houses are not keeping up with usual requirements of normal times, notwithstanding increasing business activity. The fact that money has been available at lower than ordinary rates was expected to alter the situation before this. While there has been some increase in commercial loans, there has been nothing like the demand for them that was anticipated.

Funds borrowed for new capital naturally come from private investors and other sources than commercial banks, which quite properly must keep their depositors' money in more liquid shape than usually obtains in capital investments with their attendant risks, albeit their attendant greater chance of profit.

Mr. Hanes points out that if more of the benefits arising from Southern industrial expansion are to accrue to the people of the South, "we shall have to invest more heavily ourselves in our own industries." However, as the banks of the South are usually well informed upon local situations and opportunities that are continually arising for the employment of investors' money profitably, they can be of great help in promoting enterprise as advisors, and thereby in the end as accounts develop, furthering the interests of their banks.

Mr. Hanes recognizes the distinction between commercial banking and investment banking, but at the same time shows how both can benefit and the whole South benefit, by a little more teamwork on the part of Southern bankers and investors. They can work together to build up and develop industrial resources of the Southern states.

It is not out of place to point out here that in all such enterprises, for which the South offers the greatest encouragement, full study of the opportunities presented should be given, and all factors carefully weighed. Available raw materials and manufacturing advantages mean little unless there is an evident demand, as well as accessible markets, for the products of the proposed factory besides full financing for its operation. Fly-by-night industries that exploit workers and investors have no place in the South. Promoters seeking free sites, free taxes and a number of other free things, have painted glowing pictures to get the backing of community organizations. There are enough sound opportunities without being over-anxious to increase community payrolls by hasty acceptance of proposals without sound evidence of their profitable and continued operation.

From a background of more than half a century of study of the South's advantages, it can be said with assurance that there probably never had been a time when so much active interest was being shown by investors and manufacturers throughout the country in what the South has.

FAIR PLAY

ATENTION is directed on the cover of this issue to an important subject—the responsibility of industry. It was defined by speakers at recent business conventions as "responsibility for the national welfare."

We believe that industry is aware of its part in this responsibility and in accepting it in the past has accomplished for material progress and social betterment in America more than has been accomplished in any other land. It would be unfair to industry, because of the detractions frequently uttered of late, not to call attention to what has been the effect of industry's success upon the life and well-being of our population to a degree not always understood or appreciated.

It is timely too, to repeat what has been said before in these columns—that the field between government and business should be altogether distinct, and not antagonistic. Government in this country has its province and limitations laid down by the founders. Changes in its functions should not be by edict, but by orderly procedure and approval of the states.

It is well to criticize and flay abhorrent practices wherever found—monopolistic control, sweat shop employment—and to be unceasing in denunciation of detestable conditions, which tear down and make life difficult for those unfortunate enough to be victims of such conditions. But the advantages which America enjoys, that have come about because of the upbuilding work of rightly conducted industry, which in numbers far exceed the other kind, indicate an acceptance of employer responsibility that deserves the telling.

The experiments of the scientist are advanced and realized through the cooperation of industry. Our schools and universities, hospitals, religious and charitable institutions, which cause America to stand out among nations, owe their expansion in widespread usefulness mainly to the increase of wealth created by industry.

Industry has a right to ask for fair treatment. It deplores the political effort, which has been more pronounced of late, to build up a feeling of class distinction between employer and employee. The result of this is seen in threats of strikes throughout the country, although employees are better paid and are working under better conditions than ever before in history.

Stifle the spirit of adventure inherent in all progressive industrial leaders, and what have you? A stagnant country. There must be free play for risk and initiative, together with the compensation that goes with them.

Government has been given the right in this Democracy to regulate interstate commerce whenever that commerce is impeded, but our form of government and its endurance rest upon the rights of states, and in the face of a possible charge of conservatism, we believe that the regulation of most of our internal affairs from Washington, and competition with private business on the part of the Federal government is an unwarranted and destructive assumption of power.

The majority of business men are patriotic citizens, who will do more for their workers, and more for their communities if permitted to pursue their work of development instead of spending a large part of their time either in consulting Washington Bureaus as to how they should proceed, or in meeting with labor boards and labor representatives who are demanding more and more under the complacent approval of politicians who have no care for the disintegrating policies they advocate.

SOUTHERN FINANCING

For Southern Industry

By

Robert M. Hanes,

President, Wachovia Bank & Trust Company,
Winston-Salem, N. C.



Robert M. Hanes

THE needs of industry are both physical and financial. The many physical advantages which the South affords industry have long been recognized. Its climate, natural resources, raw materials, transportation facilities, accessibility to markets, labor supply and other important advantages have been the principal factors in the South's rapid industrial expansion. As business competition throughout the nation grows keener the things which the South has to offer often mean the difference between loss and profit in manufacturing, and concerns from other sections of the country, in increasing numbers, are seeking Southern locations for branch plants or moving their entire operations South.

THE financial advantages, although substantial, have been less evident. Too frequently it has happened that when a concern moved its manufacturing headquarters South its financial headquarters remained in the larger money centers of the North and East.

ONE might discuss at length the causes of this situation, and doubtless, as between bankers and industrialists, there would be a wide difference as to who is responsible. Southern bankers have been criticized for lack of interest and cooperation in the promotion of new industrial enterprises. I do not believe this is a fair criticism; it probably arises from a lack of understanding of the proper function a commercial bank performs in industrial promotion. Unquestionably, there was a time when the South was developing more rapidly industrially than it was financially. Perhaps Southern banks have not been sufficiently aggressive in selling their services.

But whatever may have been the causes creating this situation, I believe they are being rapidly removed. During recent years the financial progress of the entire South has been most remarkable.

ON June 30, 1936, Southern banks had on deposit over \$7,630,000,000 and had total resources in excess of \$8,730,000,000. Capital structure

was in excess of \$850,000,000; cash and deposits with other banks \$2,792,000,000; U. S. Government securities \$1,932,000,000; loans \$2,484,000,000. On June 30, 1933, just three years prior, total deposits of Southern banks were \$4,886,000,000. In this period, it will be noted, deposits increased more than 50%. Since the June, 1936, figures were compiled there has been a further substantial increase in the deposits and resources of our banks. While deposits have been increasing at a rapid rate, the outstanding volume of loans has increased only very moderately, leaving a constantly widening margin between the supply and the demand for funds.

FROM these figures one can readily see that there is available at least \$3,000,000,000 of additional funds which our banks could employ immediately in commercial loans to Southern business. I believe this supply of funds is sufficient, not only to support a substantial amount of expansion on the part of industry and business now operating in the South, but also adequate to assure new enterprises of adequate financing of seasonal needs.

The banks of the South are not only

anxious to use these funds to finance Southern business, but they are ready to offer them on just as attractive terms as may be obtained in the larger financial centers of the North. There may have been a time when local business absorbed the major portion of the loanable funds of our banks at higher rates of interest and thus made it necessary for the larger Southern industries to supply their needs from the more abundant money centers elsewhere and at better rates than were available locally.

I believe that Southern banks are now prepared to meet this situation. If the local community bank serving a large industry cannot take care of all of its requirements, then there are larger banks throughout the South that are ready and anxious to supplement the facilities of

(Continued on page 56)

RESOURCES OF SOUTHERN BANKS

(June 30, 1936—Compiled from Rand McNally Bankers Directory)

	Capital	Surplus	Deposits	Resources	Cash	U. S. Bonds	Loans
Alabama	\$29,155,000	\$10,797,000	\$249,133,000	\$296,650,000	\$90,793,000	\$54,575,000	\$88,811,000
Arkansas	14,059,000	4,788,000	150,960,000	174,158,000	66,031,000	28,574,000	48,221,000
Florida	22,412,000	10,038,000	304,808,000	340,790,000	118,524,000	107,702,000	61,595,000
Georgia	35,662,000	16,854,000	400,014,000	465,672,000	144,332,000	94,574,000	161,732,000
Kentucky	35,959,000	20,767,000	394,544,000	470,038,000	112,625,000	85,760,000	175,763,000
Louisiana	28,265,000	10,253,000	390,075,000	438,184,000	150,208,000	106,165,000	109,276,000
Maryland	39,006,000	39,342,000	804,791,000	910,719,000	201,960,000	298,322,000	195,635,000
Mississippi	17,500,000	4,361,000	161,396,000	186,915,000	56,424,000	19,329,000	56,779,000
Missouri	88,220,000	36,101,000	1,363,251,000	1,517,128,000	506,203,000	416,335,000	367,299,000
North Carolina	27,166,000	13,148,000	370,610,000	423,446,000	135,266,000	84,153,000	130,717,000
Oklahoma	31,894,000	11,594,000	419,359,000	471,753,000	186,177,000	73,906,000	121,814,000
South Carolina	9,071,000	3,548,000	128,114,000	143,375,000	57,882,000	21,563,000	36,913,000
Tennessee	40,419,000	13,610,000	451,677,000	535,656,000	167,952,000	83,533,000	174,211,000
Texas	109,359,000	40,006,000	1,241,297,000	1,424,941,000	537,143,000	301,838,000	392,211,000
Virginia	47,469,000	21,119,000	627,723,000	614,830,000	166,952,000	104,494,000	244,763,000
West Virginia	28,822,000	12,533,000	273,661,000	323,589,000	93,532,000	51,069,000	118,499,000
Total	\$604,438,000	\$268,859,000	\$7,631,213,000	\$8,737,844,000	\$2,792,103,000	\$1,932,390,000	\$2,484,229,000

1936 RECORDED GREAT PROGRESS IN THE SOUTH

INCREASING activity in Southern manufacturing was seen as 1936 passed into history. Business prospects for the immediate future are exceptionally bright.

Southern textiles with enlarged facilities and modernized equipment are at their peak operation.

Iron and steel production is at 75 per cent of plant capacity in the South with an approximate \$53,000,000 sheet, tin plate mill and other expansion being made in Alabama and Maryland.

The Southern petroleum and gas industry is meeting increased demand. New refineries, improvements and extensions to oil and gas pipe lines continue to be made.

Furniture factories have been working full time; lumber mills are showing the best record in sales and production in several years, while food processing and other kindred industries are taking their part in the business revival going on.

The transportation industry has been moving a greater volume of freight, and electrical production by Southern power utilities has been at the highest point on record.

Wholesale and retail business, as the year closed, approached pre-depression levels of 1929 when the wholesale trade of the South was \$15,373,000,000, and retail sales were \$11,562,000,000.

Capital Goods Consumption Stimulated

The effect of the general business recovery has been to stimulate capital goods consumption in building and the modernization of industrial plants in the Southern States. Preparedness is now the watchword to keep abreast of the buying movement under way. The South is fac-

ing its greatest opportunity and investors are giving increasing recognition to this fact. This section is setting the pace in the extent of its industrial expansion.

\$322,000,000 for Industrial Expansion

More than \$322,000,000 for manufacturing facilities and industrial improvements were undertaken in the Southern States during 1936. The rapidity of the gain in this development, privately financed, is significant in that the 1936 figure is more than double the contracts awarded for similar expansion projects in 1935, and $3\frac{1}{2}$ times each of the years 1934 and 1933. At the bottom of the depression, the manufacturing advantages of the

Some New Enterprises

There has been a wide variety of manufacturing enterprises undertaken in 1936. New plants have been established for the production of:

Woodpulp	Garments
Kraft paper	Shirts
Linerboard	Shoes
Bags	Cottonseed Oil
Boxes	Tung Oil
Sheet steel	Meat packing
Tin plate	Fruit canning
Tin cans	Vegetable canning
Metal drums	Grain mills
Pipe	Grain elevators
Foundry products	Sugar
Oil refining	Refrigeration
Carbon black	Beverages
Chemicals	Distilling
Cloth	Tobacco
Hosiery	Phosphate
Knit goods	Roofing
Cellulose	Lumber
Rayon	Woodworking

**\$322,000,000 Invested in
New Industrial Development
During 1936, Sets Pace for
the Nation—Further Gains
in Southern Business Ex-
pected in 1937**

South attracted new capital of approximately \$80,000,000 in a year. Since 1930, approximately \$1,000,000,000 have been invested in new privately financed plants and industrial improvements in the Southern States.

Outstanding Projects of the Year

In the early part of the depression period, the outstanding developments were the establishment of great alkali and other chemical plants at a total cost of more than \$85,000,000, and more than \$200,000,000 for extensions of oil refineries and oil and gas pipe lines.

Then followed one of the most rapid industrial expansions the South has experienced, not excepting the textile development of the post war period. Adding to its established kraft paper making industry, there was started about 18 months ago the first of a series of 10 huge kraft pulp, paper and linerboard plants, seven being let to contract in the past few months. Approximately \$60,000,000 is involved in this major development of the year.

The recently announced expenditures of extraordinary importance will provide for the South additional facilities for greater diversification of products.

One of the South's New Paper Mills at
Crossett, Ark.



BEST TEXTILE YEAR SINCE 1929

Greater Demand and Brighter Prospects Prompt Plant Additions and Modernization—Over \$22,000,000 Expended in South for Structural and Equipment Betterments in 1936

AS the Southern textile industry represents an investment of approximately \$1,000,000,000, with 64 per cent of the installed cotton spindle capacity of the country and operating more than 75 per cent of the total spindle-hours, its more favorable situation today is of great importance to the nation's economic soundness. Southern mills have about doubled their cotton takings of 1,543,000 bales in 1934. They are now consuming 88 per cent of all the cotton used in American mills.

The dominant position the South holds in cotton and rayon manufacturing is shown by the fact that it has more than 1000 establishments operating one or more individual plants. They pay out in wages about \$190,000,000, over \$480,000,000 for materials and power and the value of their output is approximately \$800,000,000 annually. Principal equipment in Southern textile plants include 50,946 cards, 370,159 looms, 20,553,000 spindles, 3,891 braidiers, 98,881 knitters, and 12,923 sewing machines are operated.

Production and Sales Gain

Increasing demand and prices, with wide-spread activity, combine to make 1936 the best year the Southern textile industry has had for a long time. Sales, prices, production and profits have been materially higher and the year closed with many mills reporting orders ahead for several months. The industry has the greatest backlog of business since the peak of the 1929 "profitless prosperity" period of cotton manufacturing.

Fair to excellent is the consensus of opinion of individual manufacturers in viewing the present and immediate future of the industry. Some comments received by the MANUFACTURERS RECORD are cited:

"Present and future outlook best for 6 or 7 years."

"Situation excellent except for taxes, and if mills are not taxed out of existence."

"The industry has been suffering from over-capacity, but in recent years the mills have met this problem intelligently by a balance of production with sales. The textile business is the best since 1929 and prospects through the first half of 1937 are excellent."

"Present situation best in several years and outlook for the immediate future good."

"Facing the best two or three years of business since 1926-1930 period, if

we refrain from over-producing."

"Sold ahead to capacity for five months and expect continued general demand."

"Continued good volume with probable betterment in profit margin, in addition to gains made."

"Outlook for immediate future is good but mills should refrain from three-shift production which will destroy the market in a short time."

"Outlook is good for the modern or modernized mill."

"Southern textiles have passed the low point and are now operating on a sound basis, with profitable 6 months anticipated business."

"Should be good if there is not too much outside interference."

"Since the elimination of the processing tax and NRA, the position of the Southern textile mills has improved wonderfully. Most mills have a good backlog of unfilled orders and the outlook is favorable."

Several manufacturers, while encouraged over the present situation, warn against over-optimism that might lead to over-production. The industry has come through trying times and care should be taken by manufacturers to keep it on a sound operating basis within reasonable bounds of demand.

\$22,000,000 in Improvements

While there has been no major construction of new cotton mills in the South,

many important structural additions have been made, several rayon plants have been started or proposed, and many hosiery mills and garment factories erected. More than 26 new hosiery mills were started in the South this year, continuing a movement that has been growing for several years in the diversification of the whole textile industry of the South. The greatest activity has been in modernization of existing facilities. During 1936 textile mills began to spend more for new machinery, replacements and plant extensions. Incomplete returns indicate that the textile industry of the South has expended this year more than \$22,000,000 in expansion and modernization. The accompanying impressive list shows some of the weaving, spinning and knitting concerns in the South which have been reported as proposing, making or completing improvements during 1936.

ALABAMA

Dwight Mfg. Co., addition, Alabama City.
Alabama Textile Products Corp., addition, Andalusia.
Adelaide Mills, improvements, Anniston.
Atmore Silk Mills, plans extensions and modernization, Atmore.
Alabama Hosiery Mills, addition, Decatur.
Florence Cotton Mills, modernization, Florence.
Sanquitt Mill, equipment, Gadsden.
Dallas Mfg. Co., equipment, Huntsville.
West Point Mfg. Co., auditorium addition, Langdale.
Lanett Mills, equipment, Lanett.
Pepperell Mfg. Co., mill additions and 23 cottages, Opelika.
M. Snower & Co., modernization, Opelika.
Southern Mills, equipment, Oxford.
Cowhikee Mills, addition, Ozark.
Bradford Mills, betterments, Prattville.
West Point Mfg. Co., addition, Shawmut.
Samoset Cotton Mills, equipment, Talladega.
Avondale Mills, improvements, of Alabama plants.

GEORGIA

Albany Mfg. Co., hosiery mill, Albany.
Rodgers Hosiery Co., new mill completed, Athens.
Columbus Mfg. Co., equipment, Columbus.
Swift Mfg. Co., addition, Columbus.
Crisp Hosiery Mills, new plant, Cordele.
Fairfax Mills, sales addition, Fairfax.
Callaway Mills, addition to Hillsdale unit, La Grange.
Dunson Mills, equipment, La Grange.
Georgia-Kincaid Mills, machinery replacement, Griffin.
Holeproof Hosiery Co., distribution unit, Marietta.
New Holland Mills, modernization, New Holland.
Strickland Cotton Mills, addition, Remerton.
Anchor Duck Mills, addition, Rome.
Spotlight Hosiery Mills, proposed, Rome.
Peerless Woolen Mills, addition, Rossville.
Roswell Mills, addition, Roswell.
B. F. Goodrich Co., addition, Silvertown.

NORTH CAROLINA

Standard Hosiery Mills, equipment, Burlington.



Rufus D. Wilson, Inc., hosiery mill, Burlington.
 Per Manco, Inc., new tweed goods plant, Carthage.
 Johnson Mills, addition, Charlotte.
 Hoover Hosiery Co., addition, Concord.
 Carolina Cotton & Woolen Mills Co., addition, Leaksville.
 Carolina Webbing Co., mill, Greensboro.
 Greensboro Weaving Co., addition, Greensboro.
 Mock Judson Voehelinger Co., Greensboro.
 Proximity Mfg. Co., improvements, Greensboro.
 S. Slater & Sons, new rayon goods mill, Greensboro.
 P. H. Hanes Knitting Co., extension spinning plant at Hanestown.
 Granite Finishing Works, addition, Haw River.
 Pinehurst Silk Mills, addition, Hemp.
 Henry River Mills Co., equipment, Henry River.
 Robbins Knitting Mill, High Point.
 Wrenn Hosiery Co., addition, High Point.
 Guilford Hosiery Mills, improvements, High Point.
 Bellvue Mills, equipment, Hillsboro.
 Wennonah Cotton Mills, equipment, Lexington.
 Carolina Mills, Inc., betterments, Maiden.
 Cross Cotton Mills Co., equipment, Marion.
 Marion Knitting Mills, Marion.
 Globe Mills Co., equipment, Mount Holly.
 City Cotton Mills, addition, Newton.
 Clyde Company, equipment, Newton.
 Kendall Mills, proposed sewage disposal plant, Paw Creek.
 Pee Dee Mfg. Co., equipment, Rockingham.
 Rocky Mount Mills, equipment, Rocky Mount.
 Sanford Cotton Mills, extensions, Sanford.
 Sellers Mfg. Co., modernization, Saxapahaw.
 Selma Mills, addition, Selma.
 Duchess Fabrics Corp., addition, Statesville.
 Dover Mills, addition, Shelby.
 Eton Mill Co., equipment, Shelby.
 Hart Cotton Mills, extensions, Tarboro.
 China Grove Cotton Mills, addition, Tryon.
 Pilot Full-Fashioned Hosiery Mills, addition, Valdeese.
 Waldensian Full-Fashioned Mills, addition, Valdeese.
 Lenard Cotton Mills, equipment, Worthville.
 Carolina Finishing Co., mill, Yadkin.
 Erwin Cotton Mills, addition and equipment, 3 mills in North Carolina.

OKLAHOMA

Sand Springs Textile Mills, Inc., new equipment, Sand Springs.

SOUTH CAROLINA

Appleton Mills, addition, Anderson.
 Calhoun Mills, equipment, Calhoun.
 Kandall Company, equipment, Camden.
 Springs Cotton Mills, addition, Chester.
 Clifton Mfg. Co., equipment, Clifton.
 Clinton Cotton Mills, equipment, Clinton.
 Hampton Spinning Mills, additional machinery, Clover.
 American Spinning Co., improvements, Greenville.
 Chiquola Mfg. Co., improvements, Honea Path.
 Laurens Cotton Mills, modernization, Laurens.
 Pacific Mills, addition, Lyman.
 Marion Knitting Mills, addition, Marion.
 Santee Mills, improvements, Orangeburg.
 Arcade Cotton Mills, equipment, Rock Hill.
 Industrial Cotton Mills, addition, Rock Hill.
 Rock Hill Finishing Co., addition, Rock Hill.
 Rosegren Knitting Mills, additional equipment, Sumter.
 Fairforest Finishing Co., warehouse, Spartanburg.
 Seaton Mills, equipment, Spartanburg.
 Startex Mfg. Co., improvements, Tucapaw.
 Ware Shoals Mfg. Co., modernization, Ware Shoals.

TENNESSEE

Dixie Mercerizing Co., addition, Chattanooga.
 Peerless Mills, improvements, Chattanooga.
 Delano Mills, Inc., improvement, Delano.
 Security Mills, improvement, Knoxville.
 Standard Knitting Co., equipment, Knoxville.
 Niota Mills, Inc., new hosiery mill, Niota.

TEXAS

Bonham Cotton Mills, improvements, Bonham.
 Dallas Cotton Mills, improvements, Dallas.
 Hillsboro Cotton Mills, equipment, Hillsboro.
 Texas Textile Mills, improvements, Waco.

VIRGINIA

Kenmore Hosiery Co., new mill, Fredericksburg.
 Consolidated Textile Corp., modernization, Lynchburg.
 Pannill Knitting Mills, Inc., improvements, Martinsville.
 Wallner Silk Hosiery Mills, Inc., proposed plant, Pulaski.
 Blue Ridge Textile Mills, new mill, Pulaski.
 Staunton Woolen Mills, Inc., addition, Staunton.

Martha Mills and Village, Silvertown, Ga.

Roanoke Weaving Co., plant, Vinton.
 Crompton-Shenandoah Co., proposed unit, Waynesboro.

Record of 43 Mills

In an analysis of detailed replies of 43 cotton weaving and spinning mills in the South, the oldest being established in 1887 and the latest in 1933, the following facts are of interest in showing the extent of their activity during 1936:

They reported expenditure of \$37,790,000 for materials during the year, \$24,853,000 being for cotton or other raw materials, \$3,679,000 for miscellaneous supplies — starch, dyes, packing materials, etc., \$476,000 for coal and \$32,800 for fuel oil. These mills employed 31,730 workers and had a payroll of \$19,191,000. With three exceptions the mills were operating at 100 per cent of capacity.

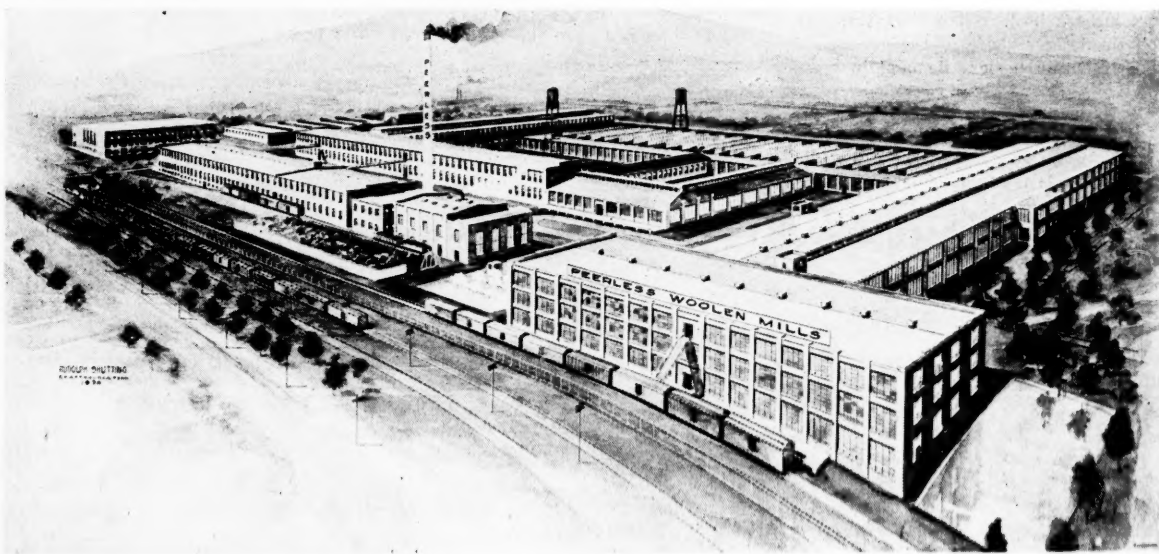
Of the 43 mills, 4 were operated by hydro-electric power, 5 by steam power and 4 electric power generated by their own plants. Thirty-seven of the mills purchased current, or used a combination of produced and purchased current.

Sprinkler equipment is used by 30 of the reporting mills.

Thirty-two of the 43 mills in 1936 spent \$1,778,000 for improvements of which \$1,530,000 was for machinery and equipment. Twenty of the 43 mills reported expected combined expenditures for additions and improvements in 1937 of more than \$1,000,000 of which \$870,000 is to be spent for new machinery.

In addition to materials required in the

Peerless Woolen Mills, Rossville, Ga.



erection of buildings, Southern textile mills have bought, other than textile machinery of practically every type, boilers, motors, steam and internal combustion engines, stokers, conveyors, elevators, industrial trucks, motor trucks, sprinkler and air conditioning equipment, and other equipment required in the modernization of plants that has been extensively under way during the past year.

The 43 mills represent a fair cross section of the South's cotton weaving and spinning industry as to the extent of their expenditures for materials and improvements.

Cotton Industry of Nation

Referring to the fact that the cotton

textile industry of the nation is in the black for the first time in a number of years, Dr. Claudius T. Murchison, president of the Cotton Textile Institute, Inc., says only two real hazards are in the way of definite recovery. These are possibility of over-production and the rapid expansion of Japanese imports. Cotton mills, as a whole, are operating on the wage and hour principles of the former NRA code. The higher wages and shorter hours in this country make it more difficult to meet the cheap competition of Japan with its low wage scale and long hours.

The Board of Directors of the New Orleans Cotton Exchange states that during the past few months we have witnessed one of the greatest revivals in the textile

industry in the history of the cotton trade. The revival is world-wide but has been most marked in this country. Daily sales of cotton goods, much in excess of production, have been a feature of the market for more than two months. Many American mills are sold so far ahead that they are not in a position to accept new orders except in limited quantities.

Cotton Crop 12,407,000 Bales

A United States cotton crop of 12,407,000 bales is estimated for 1936 as compared with 10,638,000 in 1935, 9,636,000 in 1934, and 14,667,000 for the five year average 1928-1932. Harvested acreage is estimated at 30,054,000 acres, about 10 per cent above 1935.

HOSIERY SHIPMENTS TOP 1929

By

Howard Hageman,

Manager, Statistical Dept., National Association of Hosiery Manufacturers

60 Per Cent Produced by Southern Mills

DEMAND for hosiery rose to new heights in 1936 and the benefits derived by manufacturers from this growth have been reflected in a steadiness of employment which must be the envy of many other industries. The forward movement of the hosiery industry in 1936 has been built upon sound and enduring foundations, and manufacturers are looking forward with confidence to 1937.

Hosiery shipments for 1936 are estimated at 122,000,000 dozen pairs. Shipments for 1936 not only should top 1935 by about 10 per cent, and show an increase of over 23 per cent from the low point of the depression, but they also should exceed the previous peak in demand reached in 1929 by a very substantial margin. Employment has ranged between 136,000 and 145,000 against 129,000 workers in 1929.

Southern hosiery manufacturers have obtained their share of the general improvement in hosiery demand in recent

years. For 1936, shipments from Southern mills are estimated at 73,530,000 dozen pairs, a gain of 11,033,000 dozen pairs, or 17.7 per cent, over shipments last year. The South is now producing about 60 per cent of the domestic hosiery manufactured. Both the full-fashioned and seamless branches of the Southern industry have participated in the increase—although, of course, in terms of dozens of pairs the seamless branch has contributed more than the full-fashioned branch, since the former constitutes the major portion of Southern hosiery production.

Part of the recent gains shown by the hosiery industry reflect the broadening of the potential hosiery market through an increase in population, but of equal importance is the increase in individual income, which has made it possible for manufacturers in the last few years to capture more of the potential market. In 1930 and 1931, annual per capita consumption of hosiery in the United States amounted to 9.6 pairs. If total shipments of all types of hosiery this year reach 122,000,000 dozen pairs, annual per capita consumption will have been re-established at the 1929 level of 11.5 pairs.

As hosiery manufacturers look toward the coming year, the question of increased manufacturing costs looms as one of their major problems. The rising prices of raw materials, plus new taxes and increases in costs of operation as a result of probable Federal legislation, make this development seem inevitable. But the saving grace of the situation is the increased individual income which will enable the buying public to absorb these additional charges without diminishing the amount of the industry's product which it uses.

Rayon Development of the South Continues

TO the South's cotton manufacturing must be added the increased activity of its cellulose and rayon industries, which have over 70 per cent of the country's production capacity and which used linters from approximately 6,000,000 acres of cotton to supply the South's cellulose requirements. More than 54,000,000 pounds of cotton linters went into the manufacture of acetate rayon in the United States last year. Approximately 185,000,000 pounds of rayon are made in the South each year.

It is estimated that the cellulose industry of the country furnishes a market for about one-fifth of the cotton crop of the Southern States.

In the South are located some of the largest rayon plants in the world and the industry is continually expanding. Recent additions include a

\$2,500,000 unit to the Rome, Ga., plant of the Tubize Chatillon Corporation; a new plant at Nitro, W. Va., and new units at Parkersburg, W. Va., for the Viscose Corporation, which has a 300-acre site at Front Royal, Va., for a new plant; and addition of 100,000 square feet of floor space is under way at the Ashville, N. C., plant of the American Enka Corporation, and power plant improvements, at a cost of \$300,000, were begun at Amelle, Md., by the Celanese Corporation.

Rodgers Hosiery Co., Athens, Ga.
Many mills of similar character were erected in the South in 1936



\$60,000,000 FOR NEW KRAFT MILLS

10 Kraft Pulp, Paper Container and Linerboard Plants Established in the South in 1936.

THE latest addition to the remarkably rapid kraft pulp and paper development in the South is the definite announcement of a \$7,000,000 pulpboard mill with a 350-ton daily capacity at Fernandina, Fla., which has been in prospect for more than a year. The Container Corporation of America, said to be the world's largest manufacturing unit in both the paperboard and container industries, is beginning at that point the construction of the first unit to be completed in the next 12 months. George F. Hardy, internationally known builder of paper mills, is the engineer for the project.

Walter P. Paepcke, president of the Container Corporation, said the location of this large industry at Fernandina is the culmination of negotiations extending over several months between his company, the City of Fernandina, represented by the City Manager, O. H. Anderson, with the assistance of Warren T. White, head of the Industrial Department of the Seaboard Air Line Railway.

Among the manufacturing advantages for the location of the plant, given by Mr. Paepcke, is the abundant supply of cheap pulpwood in the territory immediately

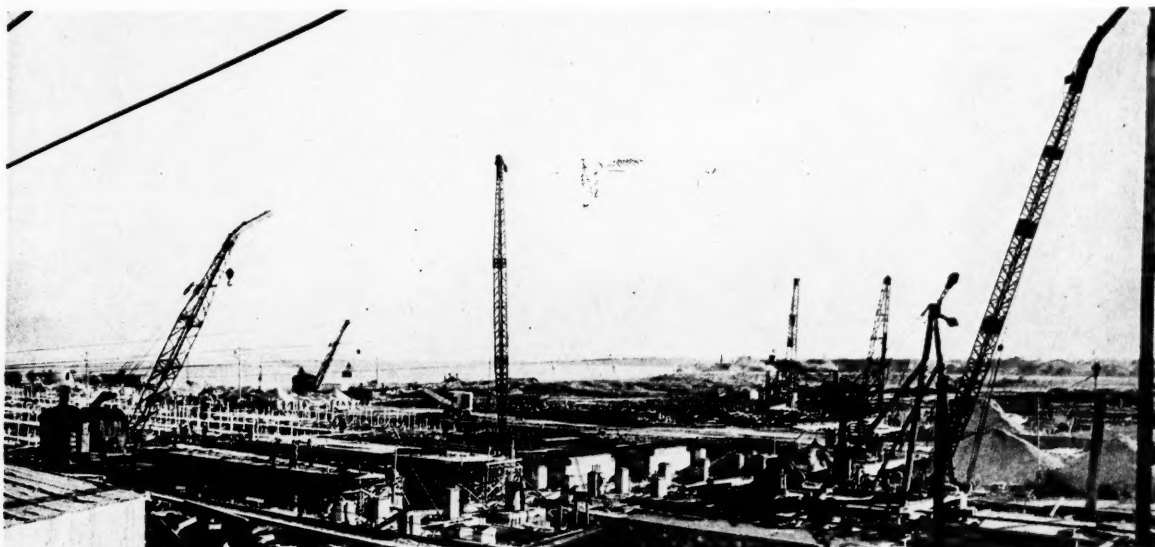
West Virginia Pulp & Paper Co.'s Plant under Construction at Charleston, S. C.

ARK., CROSSETT — Crossett Lumber Co., kraft and linerboard plant nearing completion	\$4,000,000
FLA., PORT ST. JOE—St. Joe Paper Co., preliminary work	7,500,000
FLA., FERNANDINA—Container Corporation of America, work starts on 1st unit	7,000,000
GA., BRUNSWICK—Brunswick Pulp & Paper Co., contract let	7,000,000
GA., SAVANNAH—Union Bag & Paper Co., 1st unit completed	4,500,000
2nd unit under way	2,750,000
3rd unit contract let	3,000,000
N. C., PLYMOUTH—Kieckhefer Container Corp., contract let	5,000,000
S. C., CHARLESTON—West Virginia Pulp & Paper Co., under way	5,000,000
S. C., GEORGETOWN—Southern Kraft Corporation, under way	8,000,000
TEX., HOUSTON—Champion Paper & Fibre Co., nearing completion	3,500,000
Proposed addition	3,000,000
VA., FRANKLIN — Chesapeake Camp Corp., contract let	3,500,000

contiguous to Fernandina, which has a large acreage of fast growing young pine suitable for paper making. Georgia Forest Unit No. 1, consisting of 6,976,200 acres in 35 Southeast Georgia counties, has available 44,966,000 cords of pulpwood and Florida Unit No. 1, consisting of 7,378,900 acres in 21 Northeast Florida counties, has available 31,599,000 cords of pulpwood. When it is further considered that this area will produce rapid timber growth, from one-half to one cord of wood per acre per year, the immensity of the pulpwood supply becomes apparent. All

of the above timber lands are directly tributary to Fernandina. Wood can be brought to the plant by railroad, highway and by barge.

It is the plan of the Container Corporation to erect the first unit in such a way that other units may be added as the demands of this growing industry may require. In developing a Southern source of board for its various manufacturing units, Container Corporation is continuing the policy which the company has consistently followed under the leadership of
(Continued on page 56)



SOUTHERN MINES SHARE IN INCREASED COAL OUTPUT

By

J. V. Sullivan

Secretary, West Virginia Coal Association

WHILE official figures will not be available for several weeks, the national bituminous coal production for 1936 should aggregate 420,000,000 tons, the highest tonnage mark since 1930 when 467,000,000 tons were mined. There is a production increase of 15 per cent over the corresponding period of 1935.

Recovery from the business recession in some of the major durable goods industries, including the higher output in the steel mills, has been largely responsible for the increased consumption of coal. The expected continuance of industrial recovery will aid substantially to increase the demand for coal during the initial months of 1937. Already numerous predictions have been made in recent weeks that the consuming markets will demand a weekly production of 12,000,000 tons in the early months of the new year. Doubt has been expressed as to the ability of the industry to produce a sustained supply for that demand.

For a number of weeks the weekly production has hovered around the 10,000,000 ton mark. There is already a labor shortage in some of the fields and there is a prevalent fear that the railroad car supply may be so limited that the expected

25 per cent increase in the demand can not be met for an indefinite period. The 35-hour week is another major factor in limiting production.

200,000,000 Tons in South

Southern mines which produce over 45 per cent of the country's bituminous coal, are sharing in the revival of the coal industry. Total production in the South in 1936 will approximate 200,000,000 tons. Proportional production increases are shown in West Virginia, Kentucky and Alabama. West Virginia, when final production figures are received, will retain her lead in 1936 as the banner coal producing state of the Union. At the end of November, West Virginia's production was 106,000,000 tons, compared with an output of 99,000,000 tons for the whole of 1935. While the Christmas holidays curtailed production, the output for 1936 should reach 116,000,000 tons.

One of the factors that has further impeded the increase in tonnage has been the inability of domestic consumption to absorb the prepared sizes of coal. While industrial demand has taken the finer grades of coal, many of the operators have been checked in increasing their output by inability to dispose of prepared sizes. Cold weather, following a mild fall, should increase domestic consumption.

Chief N. P. Rhinehart, of the West Virginia State Department of Mines, said that the coal mines were employing in December more than 110,000 men, the highest employment figure in recent years, and only 10,000 short of the number engaged in mining during the record breaking production years of 1926 and 1927.

Problems of Industry

While substantial recovery has been made in the coal industry with an improved demand prevailing and business generally improving because of the increased earnings of the miners, prices



Miner Drilling Coal Before Shooting it Down

have not advanced commensurate with the increased cost of production. This is the crux of the major problem in the industry for the producer realizes that when market prices advance too rapidly fuel oil and natural gas are available as competitive fuel substitutes.

That new efforts will be made in the coming session of the Federal Congress to impose government regulation on the industry is expected by many coal operators. During the month a number of producers met in New York to discuss legislation of this character. Some operators take the view that the industry should have a hand in the drafting of the proposed legislation. There is, however, a wide divergence of opinion in the industry on this problem.

Increased Taxes

Another serious problem that coal producers are now facing is that of increased taxation. The Federal unemployment insurance tax of 1% on payrolls became effective in 1936. The Federal old-age benefit tax of 1% takes effect with the beginning of 1937. The unemployment insurance tax is increased to 2% in 1937, making a total tax of 3% payable by the employers during 1937 for social security purposes. The payroll of the coal industry in West Virginia for the fiscal year ending June 30, 1936 was \$128,000,000. This 3% Federal tax will take \$3,840,000 from the coal industry in this state during 1937. The margin of profit in the coal industry has been so thin that the employer is evincing a natural anxiety as to what he may substitute for money to meet these new Federal tax obligations.

Mechanization

There is no denying that heavy payroll taxation is an incentive to mechanizing the industry. Machines are not carried on the payroll. They are not subject to workmens compensation, unemployment insurance or old-age benefits. While mechanization is in its infancy in West Virginia and the entire Appalachian area when compared with Indiana, Illinois and the Western bituminous coal-producing

(Continued on page 62)

Tipple and Washery, Pageton, W. Va.

Prepared sizes of coal ready for shipment to markets of the country.



The Rising Trend of SOUTHERN MUNICIPAL BONDS

By

Edwin S. Gardner

Statistician, Equitable Securities Corporation

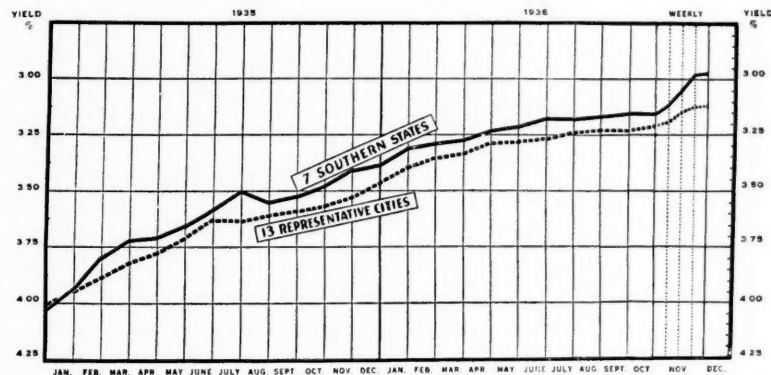
CONSIDERING the amount of publicity attending the easy money policy of the Government, bringing in its wake lower interest rates on farm and home mortgages, and rising prices for corporate and municipal securities, it is well known that money rates have declined to drastic lows, and consequently, bonds have attained exceptionally high prices. Granting that lower interest rates have permeated the economic system as a whole, it is interesting to note how and to what extent it has affected the bonds of municipalities in the Southern states.

The accompanying chart reveals the continued decline in yield on Southern municipals during the last 23 months. On it is plotted graphically the results of averaging the market value, expressed in yield to maturity, of 20-year bonds of 13 Southern cities and seven states. The average price of the thirteen cities' bonds (used in this index) on January 1, 1935, produced a yield to maturity of 4.02%; on January 1, 1936, an average yield of 3.47%; and on December 1, 1936, 3.11%. In the case of the Southern state bonds, the average yield on January 1, 1935 stood at 4.04%; at 3.39% on the first day of 1936; and at 2.97% on December 1, 1936.

That this strengthening of Southern municipal bonds is primarily a consequence of the general easy money conditions prevailing in the country as a whole, is an obvious fact. The price of municipals in the South has followed closely the trend of tax-exempt bonds in other sections.

Despite the fact that municipals in the Southern territory have risen in large measure due to easy money conditions, the picture falls short of being complete without an analysis of many other factors almost as fundamental as the position of the money market. Space does not permit an analysis in great detail of the manifold phases of local government which affect the credit status of municipal bonds, but the more important items making for improved credit conditions in the South are mentioned.

The practice of allocating or pledging certain portions of specific tax revenues to various issues of bonds, which State governments began several years ago, has attracted the attention of large buyers and met with favorable reception by institutions in other sections. Especially is this true with the highway debts, to which are pledged in many cases certain parts of gasoline and motor vehicle taxes. Enormous gains in gasoline tax revenues, spurred along by the forces of recovery, in augmenting the security behind these issues, have awakened bond buyers to the



attractiveness of revenue bonds. A large percentage of the debts of Alabama, Arkansas, Louisiana, North and South Carolina and Tennessee are payable from gasoline and motor vehicle taxes, and in almost all cases, these revenue or gas tax bonds are commanding a higher price than the remaining portion of the State's obligations.

The State of Mississippi, to finance a part of its new \$40,000,000 highway building program, has issued two series of revenue bonds in 1936, amounting to over \$10,000,000, payable solely from gasoline taxes. That these issues were bought by numerous institutions outside of the South affords a good example of the wider market obtaining for Southern municipals. Mississippi's fiscal innovations in good management and budgetary control, since 1932, have brought that state out of the depression with flying colors. From the depths of the depression, Mississippi has paid off over \$5,000,000 of its debt and continues to meet every maturity with cash.

In 1936, Southern states and municipalities continued to feel beneficial effects of various laws looking toward increasing efficiency in management. Alabama in recent years has passed budgetary legislation which makes an unbalanced budget almost impossible. This State's improved status is reflected in the strong market on its bonds, with few holders showing any inclination to liquidate, despite the large advance in price during the year.

North Carolina, which at one time in the depression experienced difficulty in meeting its principal and interest requirements, sailed on smooth financial seas during 1936 under the impetus of its reorganized tax collecting machinery and budgetary control system. Notable for its effect on counties and cities in that State is the Local Government Commission created in 1931, requiring, among other things, that all bonds of subdivisions must be issued only through the Commission and with its permission. Requiring an expert accountant for each county, the Commission has authority to inspect and supervise all local governments' accounts and records. As a result of the efficient control and supervision exercised by this Commission, an increased confidence has developed in North Carolina county and city bonds, enabling many communities to borrow new money or refund old debts at very attractive rates.

Virginia, considered the prime investment name in the South, has recently refunded an old issue of 3% "Century" bonds issued in 1891 with 1½% and 2½% bonds due 1937-66. This State has probably surpassed all others in the South (and many in the whole country) in its budgetary systems, its constitutional prohibition against over-expenditures, and its provisions for controlling and auditing the finances of political subdivisions. The credit status and management of its municipalities stand as a fine example for other states to emulate.

Tennessee, though rather late in financial reform, has already felt the effects in 1936

Southern Municipal Bond Price Index

(Average market values expressed in yield to maturity of 20-year bonds of 7 Southern States and 13 representative cities, January 1935 to December 1936)

of its new accounting system instituted in 1935. Further indicating the trend towards better management, the Governor-Elect of Tennessee who takes office in January, has since his election been working on new fiscal and administrative programs for the state government, and a control system over the finances of counties and cities, which bid fair to take the state out of the antiquated municipal management of the horse and buggy days.

Even the bonds of Arkansas, the only state to default during the depression, have sustained such large price advances in 1936 that a refunding of its highway bonds with 3 or 3½% bonds is being considered. With over 90% of its debt payable from highway revenues, Arkansas is fast being pulled out by its enormous increases in gasoline and motor vehicle taxes.

In presenting these brief examples, only the surface is scratched. Nearly every state in the South is either working out or has already attained some type of modern fiscal program. Let it suffice to say that the trend is definitely in the direction of better management, of more constructive legislation and of the recognition that the South's changing economic status necessitates greater efficiency in government.

In the above discussion, the management phase of municipal affairs is stressed, since it is apparent that the fiscal reorganizations taking place in many states since the beginning of the depression, instituting centralized accounting and tax collecting machinery, budget control systems and many other constructive features, have gone far toward building up increased confidence in and a wider market for Southern municipals. And undoubtedly, the South in very recent years has attained a wider market for the bonds of its municipal units.

Though started prior to the depression, the trend for buyers in other sections to put Southern municipals in their portfolios has gained momentum in 1936. Basic economic factors favoring a rising prosperity and increased tax paying ability are legion. Borrowing by municipalities for relief purposes has in most cases been negligible. New debt created for improvements has been held to small proportions.

(Continued on page 60)

GAS AND PETROLEUM INDUSTRY ADVANCES

THE South, which produces 65 per cent of the country's petroleum and 70 per cent of the natural gas, has made substantial gains in production and sales in 1936.

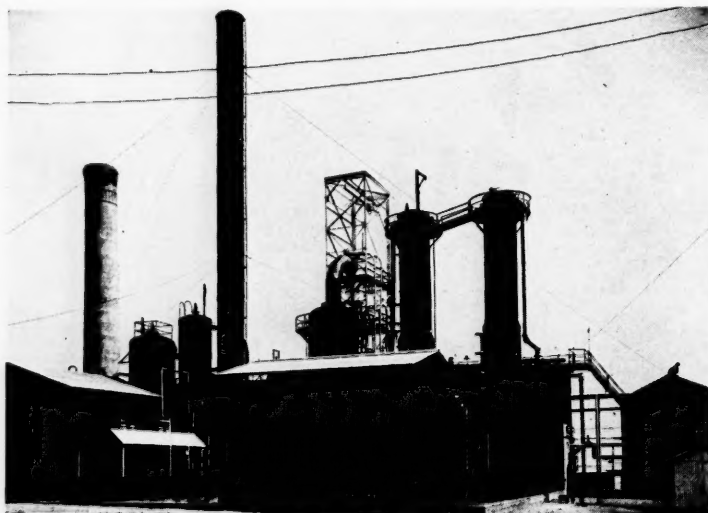
There has been improvement in the statistical position of the oil industry throughout the country, with prices advancing for crude oil. Despite increased production, record breaking consumption brought oil stocks down to 288,630,000 barrels, the smallest in 15 years, which is said to represent only 30 days' supply available for immediate use.

Petroleum output in the South increased about 13 per cent over the 646,489,000 barrels produced in 1935. Natural gas sales in the South for the first nine months amounted to more than 242,000,000,000 cubic feet, or a gain of 18 per cent, while manufactured gas produced was 30,000,000,000 cubic feet, or an increase of 11 per cent over the corresponding period of 1935.

Over \$50,000,000 for plant extensions and improvements were announced for the South during 1936, continuing the plant development in the oil and gas industry that has been under way all through the depression. Some of the projects of recent months include:

ARK., ELDORADO—Lion Oil Refining Co., lubricating oil plant	\$150,000
ARK., LITTLE ROCK—City, pipe line	1,561,000
KY., CATLETTSBURG—Carbide & Carbon Chemical Co.	2,000,000
LA., RODESSA—Coltex Corporation, gasoline plant	300,000
LA., IDA—Rodessa Gasoline Co., extraction plant	120,000
LA., NEW ORLEANS—United Gas System, expansion	1,200,000
LA., SHREVEPORT—Pelican Oil & Gas Co., gasoline plant	200,000
MD., BALTIMORE—Continental Oil Co., additions	200,000

One of the New Lubricating Oil Refineries in the South



\$50,000,000 in Plant Extensions and Improvements in the South—13 Per Cent Increase in Oil Output; 18 Per Cent Gain in Natural Gas and 11 Per Cent in Manufactured Gas Sales

MISS., VICKSBURG—City, natural gas pipe line	200,000
MO., SHELDON—Texas-Empire Pipe Line Co., expansion	4,500,000
N. C., WILMINGTON—Atlantic Refining Co., oil terminal	1,000,000
TEX., CASS COUNTY—Cass Liberty Gasoline Co., Dallas, gasoline plant	300,000
TEX., DUMAS—Witco Carbon Co., carbon black plant	1,250,000
TEX., DUMAS—Magnolia Petroleum Co., proposed gasoline plant	150,000
TEX., DUMAS—Shamrock Oil & Gas Co., proposed oil refinery	500,000
TEX., TEMPLE—City, gas distributing plant and pipe line	1,200,000
TEX., HOUSTON—Shell Petroleum Corporation, oil unit and cracking plant expansion	4,000,000
TEX., BEAUMONT—Magnolia Petroleum Co., oil treating plant	1,000,000
TEX., COLUMBIA—Columbia Gas & Electric Corporation, pipe line	3,500,000
TEX., NEDERLAND—Pure Oil Co., extending refinery	2,000,000
TEX., BEAUMONT—Atlantic Refining Co., refinery improvement	3,000,000
TEX., DALLAS—American Liberty Pipe Line Co.	2,000,000
TEX., HOUSTON—Union Carbide & Carbon Co., by-products plant	6,000,000
TEX., DALLAS—Freeman W. Burford, gasoline pipe line	1,500,000
TEX., CORPUS CHRISTI—Corpus Christi Refining Corp., expansion	400,000
TEX., ATRECO—Atlantic Refining Co., refinery	5,000,000
TEX., BEAUMONT—Magnolia Petroleum Co., cracking unit	2,000,000
TEX., BEAUMONT—Pure Oil Co., expansion	2,500,000
TEX., DALLAS—Eastern Texas Petroleum Co., pipe line	400,000
TEX., WICKETT—Gulf Refining Co., gasoline plant	476,000

Continued Demand in Electrical Field

by

F. A. Merrick,

President

Westinghouse Electric & Manufacturing Co.

There is every indication that the momentum of the 1936 recovery urge will carry further improvement for the year 1937.

In the electrical field, there is a decided upturn in requirements for prime movers and heavier lines of apparatus for generating, distributing, and using electricity. Prospects are good for a continuance of this demand in the coming year because the forces that brought about its revival are still operating.

Estimates for installation and use of household devices are on the side of increase, with rural areas an added active prospect for expansion. Industrial plants and transportation companies are re-vamping and extending their uses of electricity and the broad field of lighting is still growing in the appreciation that better standards of illumination are a worthwhile investment.

All of these considerations react favorably on both the makers of electricity and on the manufacturers of the apparatus and supplies involved.

Greater Production of Sulphur in Sight

Domestic Industry Centered in the South

By

Langbourne M. Williams, Jr.

President, Freeport Sulphur Company

THE year 1936 for the sulphur industry was marked by a satisfactory increase in business due to the sustained rate of activity enjoyed by large users of sulphur such as fertilizer plants, steel mills, acid plants, paper mills, rubber factories and others.

Approximately 2,000,000 tons of sulphur were mined by American producers, practically all in the South. This reflects an increase of nearly 22½ per cent over the 1,632,590 tons produced in 1935.

For 1937 the sulphur industry should again enjoy sales gains in proportion to the general increase in industrial activity. Sulphur itself is a basic industrial and agricultural necessity and plays an integral part in scores of manufacturing processes. For this reason its production figures have long been regarded as an index of general business prosperity.

The chief barrier to progress faced by the American sulphur industry, in addition to increased foreign competition, has been an increase in severance taxes in the sulphur-producing states. However, the action of the Texas legislature in reducing to \$1.03 a proposed severance tax of \$2.00 indicates a growing realization in the South that unreasonable and excessive taxation tends to drive away capital, prevents the development of new industries, and retards general prosperity which would give employment to thousands of people.

SOUTHERN SUGAR GROWTH LIMITED BY GOVERNMENT QUOTA REGULATIONS

By

Reginald Dykers

Vice President, American Sugar Cane League

ANY discussion of the domestic sugar industry must take into consideration the fact that it is not at the present time a free agent.

This applies not alone to the cane sugar industry of the South — Louisiana and Florida—but to the beet sugar industry as well. However, as this is a commentary on the Louisiana sugar industry I shall confine myself to that particular source of our national supply of sugar.

The Agricultural Adjustment Act, declared unconstitutional by the United States Supreme Court on January 6th, 1936, imposed a limit of production on the Louisiana sugarcane growers, this limitation being called a "quota," and the United States Secretary of Agriculture took the position, when the A.A.A. decision of the Supreme Court was announced, that the text of the decision left the quota system unaffected. Consequently it still stands.

How much sugar Louisiana is capable of producing through the utilization of all her suitable land and how many persons might be gainfully employed in it and how much incidental stimulus to trade and transportation and banking might ensue from the expansion of the industry are all, therefore, academic questions, and must remain so unless, or until, the planned economy of the Administration unleashes the potentialities of the business. The best estimates point to a possible production of sugar in Louisiana of 750,000 tons.

The amount of sugar produced in Louisiana in the 1935-36 sugar making period, which extends from the last two or three months of one calendar year into the first one or two months of the next, was 340,892 short tons, raw value. It will not be possible until the termination of the production period now under way to say specifically what will be produced in the 1936-37 season, but all indications point to a production of about 330,000 tons. One new factory is operating; several others have been renovated in order to achieve better results. Some 20 factories are standing idle.

Paradoxical Policy

The most important and conspicuous development in the Louisiana sugar industry in recent years has been the introduction of new and better varieties of sugarcane through the scientific work of the Bureau of Plant Pathology of the United States Department of Agriculture.

In this connection we have an ironical situation in which the United States Government gives us, with one hand, the means to greatly enlarge and develop our industry through hardier and more prolific varieties of cane, bred by the United States Department of Agriculture especially for Louisiana, and with the other hand check-mating all such expansion by imposing a quota on our production which holds us down and prevents us from taking full advantage of the great boon conferred on us by these new canes.

Such cane breeding has become possible in recent years, it not being formerly known that sugarcane could be propagated from seed. It was always grown by planting the eyes, like potatoes. Now that ways have been found to produce viable seed it is possible to cross different varieties and breed canes suitable to particular soils and climates.

Sugar Quotas for 1937

The Agricultural Adjustment Administration announced on December 12 the sugar and sirup quotas for 1937 established in accordance with the provisions of Public Resolution No. 109, approved by the President June 19, 1936, and the Jones-Costigan Act.

The initial sugar quotas for 1937 total 6,682,670 short tons, raw value. This is approximately the amount of sugar made available for 1936 (6,812,687 short tons, raw value) after taking into account the entries of sugar under bond during December, 1935, which totalled approximately 127,000 tons and which were charged against the 1936 quotas. The initial quotas for 1937 represent an increase of 248,582 tons over the initial 1936 quotas.

The initial sugar quotas for 1937 for the

various sugar producing areas compares with 1936 as follows:

	Initial Quota Short tons, raw value	
	1937	1936
Continental United States		
Beet Sugar Producing Area	1,613,576	1,550,000
The States of Louisiana and Florida	270,664	260,000
Territory of Hawaii	976,685	941,199
Puerto Rico	831,508	801,297
Philippines	1,035,742	968,110
Virgin Islands	5,462	5,264
Cuba	1,922,423	1,852,575
Foreign Countries Other Than Cuba	26,610	25,643
Total	6,682,670	6,434,088

We are disillusioned and discouraged, however, when we reflect that, unless the forthcoming Congress, does something to change the situation, the production quota for Louisiana for next year is going to be set at about 221,000 tons, over 100,000 tons less than we shall produce this year.

Checks Creative Enterprise

With the United States importing most of the sugar it needs, it is difficult to understand the philosophy of restricting the home production of this necessary commodity. Louisiana, Florida, and all the beet states too, could be allowed to quadruple their production and still the amount of sugar annually consumed in this country would not be reached. That a free rein is not given to the Louisiana sugar industry and to the Florida sugar industry and to the domestic beet sugar industry is economically absurd. There should be quotas on the imports; not quotas on the enterprises that give employment to our own people and which build up our national prosperity and well being through all the ramifications that necessarily are followed in the spread and distribution of created wealth. In Louisiana, approximately thirty million dollars a year is fabricated out of rain and soil and sunshine by the sugar industry. It is new wealth; not wealth taken from one man and given to another, but springing fresh-blown from the bosom of Nature, and every dollar of it goes into the pocket of one United States citizen or another.

There should be no "quotas" imposed on home-grown sugar!

A \$95,000,000 Investment

No complete statistics as to the total amount of capital invested in the Louisiana sugar industry, field and factory, are available. The U. S. Department of Agriculture says the acreage in sugarcane in Louisiana in 1936 is 301,000 acres. To this we should add 100,000 acres necessarily used in rotation with the actual cane acreage, or say 400,000 acres. If we estimate this land at the modest value of \$50 an acre we get an investment of \$20,000,000 in land. The factories represent an investment of about \$40,000,000. There has to be working capital, certainly not less than \$15,000,000. There are farm buildings, barns, narrow gauge railroads, stock, fences, implements, tractors and such essentials worth, at a modest estimate, \$20,000,000, as there are somewhat over 10,000 cane farmers, and each one has to have the necessary equipment for carry-

(Continued on page 62)

Sugar is not a surplus crop like cotton. Immense amounts of it are imported every year. No greater absurdity was ever perpetrated than the imposition of quotas on domestic sugar production.

The underlying idea of the Government policy is to make sure that the sugar interests of Cuba, Puerto Rico and the Philippines are not jeopardized by a too rapid expansion of the home grown sugar with some subsequent slight increase in the price of sugar to the consumer. Sugar is, however, far below all other staple foods in its price index and could stand a little increase and, with the consequent expansion of the industry, the use of millions of acres of cotton and wheat lands in the United States would go over to cane and beets respectively, thus curtailing those surplus crops.

SOUTHEAST SETS RECOVERY PACE

By

Legh R. Powell, Jr.
Receiver, Seaboard Air Line Railway

THE year 1936 has been characterized by a marked revival in industrial activity in the South. Not only has there been a resumption of operations by existing plants, but there have been established branch plants, relocations and new plants. Even a casual survey of industrial growth in Seaboard territory of the Southeast cannot but impress one with the fact that diversification is the keynote of development in this area. Manufacturing in the South embraces a wide variety of products ranging from the finest silk hose to the making of steel rails. Everyone is familiar with the shift of the textile industry from the New England States to the South. Fundamental advantages offered by the South, which have been stressed in the campaign to locate industries in the South, have resulted in drawing many new industries to this area.

Rapid Advance of Paper Industry

Pulp and paper developments at points on the Seaboard Air Line Railway present an outstanding example of activity during 1936. During the year there were located on Seaboard rails four of the ten large pulp and paper mills established in the South, and in addition large expansions are under way in one paper mill which was located on our line in 1935. In this connection, announcements have been made as follows:

Union Bag and Paper Corporation placed in operation July 1st, at Savannah, Ga., a four-million-dollar pulp, paper and bag plant. A second unit of similar size is now under construction and within the past two weeks that company has awarded contract for a third unit to be completed in 1937. This will bring the total investment in the Union Bag plant at Savannah, Ga., to between \$10,000,000 and \$11,000,000 with a daily output of approximately 600 tons of paper and bags.

Southern Kraft Corporation, wholly-owned subsidiary of the International Paper Company, has under construction at Georgetown, S. C., an \$8,000,000 pulpboard and paper mill with a designed capacity of 650 tons per day.

West Virginia Pulp and Paper Company has under construction at Charleston, S. C., a 300-ton daily capacity pulpboard mill which should be ready for operation during the early summer of 1937.

Container Corporation of America will begin immediately construction of the first unit of a pulp and paperboard mill at Fernandina, Fla., which is to eventually have a capacity of 350 tons daily. When completed, the plant will cost \$7,000,000.

Chesapeake Camp Corporation has awarded contract for a pulp mill at Franklin, Va., which it is stated will have a capacity of 200 tons per day and will employ approximately 700 men and women. When completed, the plant will cost approximately \$3,500,000.

These developments in the Southeast will entail a total investment of more than \$30,000,000 with a total output of kraft pulp, board and paper of around 2,000

tons per day, consuming between 3,000 and 4,000 cords of wood daily, and will give employment to several thousand men and women, which will in turn add greatly to the prosperity of these communities and the South.

The United States is importing annually more than 1,000,000 tons of sulphite pulp and more than 2,000,000 tons of newsprint. Research and experiments have shown that the South can successfully participate in this business. These products constitute an enormous field of expansion which the South will undoubtedly invade to a marked extent within the coming years. The Seaboard will benefit materially from this development of the pulp and paper industry because its rails give excellent coverage of the choice pine pulpwood lands in the South and afford adequate rail transportation both to domestic markets and, through South Atlantic ports, to foreign markets as well.

Steel has long occupied an important position in Southern industry. As evidencing the necessity for growth, the United States Steel Corporation recently announced an expansion of the facilities of its subsidiary, the Tennessee Coal, Iron & Railroad Company, Birmingham, Ala., involving an expenditure of \$31,000,000.

In addition to the industries referred to, new industries have located in the Southeast. The American Can Company and the Continental Can Company have just recently located plants on the Seaboard at Tampa, Fla. Extensions involving millions of dollars have recently been announced by the DuPont Rayon Company to its plant located on the Seaboard near Richmond. Tobacco, furniture, textile finishing plants, hosiery and woolen mills in the Seaboard's territory are thriving and give promise of further substantial development.

Agricultural Advance

The agriculture of the South has joined with industry in its return to a new and firm prosperity. All agricultural forces are combined in a program of reorganization and rehabilitation. Never before has there been manifested an equal interest by Southern farm people in crop diversification and the conservation of soil fertility. In the territory served by the Seaboard Air Line Railway we have for years through a well organized agricultural department endeavored to demonstrate to our farm patrons the essentials of and the necessity for a balanced and stable agriculture. We have observed some of the fruits of our efforts in a revival of interest in live stock raising; the formation of associations for soil conservation and erosion control; and diversification by the addition of new crops which offer financial opportunities and do not compete with their other crops for markets.

The generally higher returns from farm commodities during 1936, and the easing of farm credits, indicate that the Southern farmers will be financially in position to plant normal acreages during 1937; and, in addition, invest a portion of their 1936 income by replacing farm equipment, which purchases should quickly give in-

Seaboard Air Line Railway Plays Important Part in New Industrial Development

dustry some of the benefits of the 1936 increased farm income.

The 1937 season is now well under way in Florida. The shipment of fruits and vegetables starts from that state in September and continues through May. Up to the close of 1936 Florida's fall and winter movement of fruits and vegetables will exceed by approximately 7,000 cars the fall and winter movement to the close of 1935. The prospects in that state indicate even greater increased production during the spring season.

Seaboard Improvements

In the winter season of 1933-34 the Seaboard pioneered in air-conditioning in the South on the world-famous Orange Blossom Special, and almost simultaneously, with the conviction that passenger fares necessarily must follow the trend of economic conditions, the Seaboard led in a movement which reduced passenger fares in the Southeast.

The combination of these two factors—one representative of the greatest single advance for passenger comfort; the other placing that product within the reach of all—met with instantaneous response. Bearing out the adage that a good product reasonably priced will meet with wholehearted public support, the Seaboard witnessed a return of passenger business to the rails, with the result, in 1936, that it is transporting more passengers than in 1928. Air-conditioning was quickly applied to all principal Seaboard trains. Deluxe reclining seat coaches have already been added to some principal trains, and a new construction program, together with the rehabilitation and modernization of practically all coaches, by next spring, will produce a new era of comfort at the lowest cost in history.

The introduction of new types of equipment on certain sections of the Seaboard—streamlined, air-conditioned motor coach trains, and Diesel-electric power cars—also act as a magnet for attracting passengers to the Seaboard.

There has been a substantial improvement in earnings of the Seaboard Air Line Railway, particularly during the latter half of 1936. The earnings of the Seaboard began to show a noticeable upturn in July of this year. For the last six months of the year it is estimated that total operating revenues will amount to \$18,600,000 compared with \$15,869,000 for the 1935 period, an increase of \$2,731,000, or 17%.

The outlook for the remainder of 1936 and the first part of 1937 is encouraging. As great and as rapid as has been the industrial advance in the South, and synonymously, Seaboard territory, the surface of this sections' manufacturing possibilities has barely been scratched and the future should witness our greatest progress along this line.

FERTILIZER OUTLOOK IN THE SOUTH

By

Charles J. Brand

Executive Secretary and Treasurer
The National Fertilizer Association



THE increase in the purchasing power of the Southern farmer reflected a corresponding increase in the demand for fertilizers last year. The continued increase in purchasing power indicated for the coming year argues for further increase in fertilizer consumption. The cash income from the sale of principal farm products in 12 Southern states for the year ended September 30, 1936, was \$1,992,247,000, as compared to \$1,020,652,000 for the calendar year 1932. It will be noted from the accompanying table that these figures are materially influenced by Texas and Oklahoma where comparatively little fertilizer is used considering the acreage of cultivated crops grown. The cash realized by the 12 States in 1936 was 74 per cent of that received in the calendar year of 1929, but the six eastern States in the group—Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama—received 87 per cent of the 1929 cash income. It is a matter of interest to note that North Carolina, which used over a million tons of fertilizer in 1936—the largest tonnage of any State — actually received more cash income in 1936 than in 1929.

CASH RECEIPTS FROM THE SALE OF PRINCIPAL SOUTHERN FARM PRODUCTS

	1929	1936*
Virginia	\$142,338,000	\$123,040,000
North Carolina ..	223,546,000	225,377,000
South Carolina ..	125,328,000	101,551,000
Georgia	195,184,000	164,844,000
Florida	115,408,000	113,899,000
Alabama	177,014,000	126,351,000
Mississippi	219,068,000	151,745,000
Tennessee	154,943,000	109,700,000
Arkansas	183,720,000	120,981,000
Louisiana	159,522,000	116,263,000
Texas	697,099,000	472,585,000
Oklahoma	301,715,000	162,911,000

Total—12 States ..\$2,694,885,000 ..\$1,992,247,000

*12 months ended September, 1936; includes rental and benefit payments.

Since the low consumption point of 1932 the tonnage of fertilizer in the 12 Southern States has steadily increased each year. There is nothing on the horizon that would seem to prevent a similar proportionate increase for 1937. The 1936 tonnage has increased 62 per cent over the 1932 low and, while more than for the year 1931, is still considerably below the 1930 tonnage. With the possible exception of Oklahoma, where the tonnage was practically stationary, preliminary figures indicate each one of the Southern states had a substantial increase over

1935, the total for the year in the 12 states being a little over four and a quarter million tons, a 7 per cent increase.

FERTILIZER CONSUMPTION IN THE SOUTH

(Total Consumption in 12 Southern States as Represented by the Sale of Tax Tags)

Year	Tons
1930	5,554,690
1931	4,651,407
1932	2,617,344
1933	3,135,172
1934	3,549,309
1935	3,961,288
1936*	4,251,905

*12 months ended November.

FERTILIZER CONSUMPTION IN SOUTHERN STATES

(Based on Sale of Tax Tags)

	1930	1936*
	Tons	Tons
Virginia	449,178	385,671
North Carolina ..	1,342,036	1,021,583
South Carolina ..	749,230	615,952
Georgia	928,606	676,650
Florida	488,624	495,038
Alabama	644,350	471,900
Mississippi	403,718	240,663
Tennessee	163,909	112,553
Arkansas	157,648	46,431
Louisiana	175,560	114,746
Texas	145,218	64,663
Oklahoma	6,613	6,055

Total

*12 months ended November.

In the program now proposed for the administration of the Soil Conservation and Domestic Allotment Act, good practice payments for certain fertilizer use may increase the demand for certain types of fertilizers, while payments for diversion of land from soil-depleting crops to soil-conserving and soil-building

crops may have a slight tendency in the opposite direction.

Employment in the industry should increase proportionately to the increased production. Capacity still exceeds demand so no new construction or extreme modernization of plants would be likely to affect labor requirements.

No unusual developments of a technical nature, either in mechanical processes or in the line of new materials, have been reported.

In general it would seem the fertilizer industry enters the year 1937 in a favorable position. It seems certain there will be somewhat increased consumption. There are no unfavorable material supply situations that would affect prices. The Robinson-Patman Act, prohibiting price discrimination, is considered by many to be an efficient barrier to indiscriminate, and disastrous price cutting which so often in the past has brought about below-cost sales with resulting financial disaster to the industry.

Food Processing

IT has been estimated that the South spends approximately \$1,000,000,000 a year for food and other products manufactured outside of its own borders. As the South has abundant raw materials and all the advantages for the expansion of canning and packing plants, it is not surprising that there should be an increase in its industrial capacity and that food processing should be receiving the greater attention of investors. Some of the more recent enterprises of this character announced in the South are:

GA., ALBANY—Cudahy Packing Co.	\$500,000
MO., ST. LOUIS—St. Louis Independent Packing Co.	500,000
D. C., WASHINGTON—Adolph Gobel, Inc., packing plant	100,000
TENN., MEMPHIS—Memphis Packing Corp., cooler plant	100,000
FLA., FORT LAUDERDALE—Geo. T. Kellenge, precooling	100,000
GA., SAVANNAH—H. T. Shore, packing plant	150,000
LA., MINERVA—Magnolia Sugar Corp., sugar mill	180,000
TEX., FORT ISABEL—San Benito-Fort Isabel Navigation District, cold storage	200,000
VA., SALEM—Neuhoff, Inc., packing plant	100,000
KY., LEXINGTON—Kentucky Independent Packing Co., modernization	100,000

Producers Creamery, Springfield, Mo.



OPPORTUNITY FOR THE COTTON SOUTH

**Mr. Roosevelt's Government Desires to Remove Trade Barriers—
What Will the Cotton Surplus-Producing South Do About It?**

By
Walter Parker

THREE great consumers of raw cotton—Japan, Italy and Germany—are now doing their utmost to become independent of the United States, in so far as supplies of raw cotton are concerned.

Japan is looking to Brazil, India, China, and, in a small but increasing way, to Manchuria, for raw cotton supplies.

Italy hopes to develop the cotton growing enterprise in Ethiopia in a large way.

Germany has no colonies, but is pressing her scientists to find adequate substitutes for raw cotton.

These movements are based, not on any deficiency in quality or on any inability of the United States to produce raw cotton in adequate volume, but are based upon the difficulties imposed by the

United States upon its raw cotton producing enterprise, and upon the payment, by foreign countries through the normal processes of international commerce, for cotton supplies purchased from the United States.

Cotton, a world produced and world used commodity, will always sell at a world price. For this reason, the cotton producer in the United States, who has long lived behind a tariff wall, has always been a direct victim of the two-price system in the United States—one for domestic buyers, and another for world buyers. And he will continue to be a victim of that system so long as the United States, in its new economic environment, adheres to that system.

The cotton producer cannot thrive so long as he must sell his product at world prices, both at home and abroad, and then pay the higher domestic prices for all the things he must buy.

Such is the crux of the cotton farmer's

problem in the United States.

And there is but one solution for that problem, and that is a lowered tariff wall and reopened trade channels.

A lowered tariff wall will bring the cost of the things the cotton producer must buy more nearly in line with the world prices he receives for his product, and at the same time, permit world users to buy his product and pay through the normal channels of international trade, which is the only way in which they can pay.

Reopened trade channels will permit the well equipped cotton producers in the United States to check the inroads now being made on their markets by less well equipped foreign producers.

No other scheme yet proposed can accomplish these ends.

Crop insurance cannot restore the lost markets, and markets are the real need.

Crop control by government, to hold production down and in keeping with a diminishing offtake, cannot bring prosperity to the cotton farmers.

The purpose of soil conservation is increased, or at least sustained, production. As markets are lost, production must decline.

And thus is menaced an enterprise, fully organized, well financed, completely equipped, and upon which some 20,000,000 people have built their economic lives.

With government spending billions as millions were never spent in the past, the loss of an annual income of some 600
(Continued on page 62)

EAST MISSISSIPPI PREPARES FOR GROWTH

ROAD construction, airport improvements, new schools, and other public work have been undertaken in East Mississippi in preparation for expected general industrial and agricultural development of the section.

Major projects include a concrete stadium and athletic field at Meridian and the new consolidated school at Arlington, one of many new schools by the Works Progress Administration in East Mississippi.

The first unit of the concrete stadium,

Stadium Under Construction at Meridian Miss.

235 feet high and 90 feet in width, at Meridian was completed in 29 working days. It required 155,428 pounds of steel, 77,615 feet of form lumber, 742½ tons of sand, 2,210 tons of gravel, 1,548 barrels of cement, 175,000 board feet of reinforcing lumber, and 52,000 feet of cypress seat lumber. A second unit, similar in size, is being constructed.

Contractors supplying material included:

Cement—Coosa, Atlas and Oklahoma Cement Companies.

Steel—Connors Steel Company, Birmingham.

Lumber—Acme Building and Supply Co., Meridian.

Gravel—Richton Gravel Company, Richton, Miss.

Cypress seats—Burton-Swartz Company of Florida.

The concrete, steel reinforced stadium was designed by George P. Rice, consulting engineer, New Orleans, and followed the latest building methods, with plywood being using in the form construction.

Key Field, Meridian airport, when finished by the WPA will have two runways of 150 feet wide and 3,600 feet long, paved with asphalt on a heavy rock base, and two other runways sodded. Meridian is the natural air junction point between Birmingham and New Orleans; Mobile and Memphis, Barksdale Field, La., and Maxwell Field, Ala.

Other public work at Meridian included reservoir improvements and sidewalk and street work. The city of Meridian is moving forward in a definite way—new bus line, hosiery mill, packing plant, possible military airport, etc.

The construction starting on the school at Arlington, Miss., makes possible the consolidation of three separate school districts. A 10-story apartment house for teachers, to be erected adjacent to the school, includes a light plant and water system.

The one-story school building is 225 feet long and 108 feet wide, brick and concrete construction, and was designed by E. L. Malvaney, architect, Jackson, Miss. Material contractors were:

Brick—Louisville Brick Co., Louisville, Ky.

Roofing—Flintkote and Texas Co.

Hardware—Davis Brothers, Jackson, Miss.

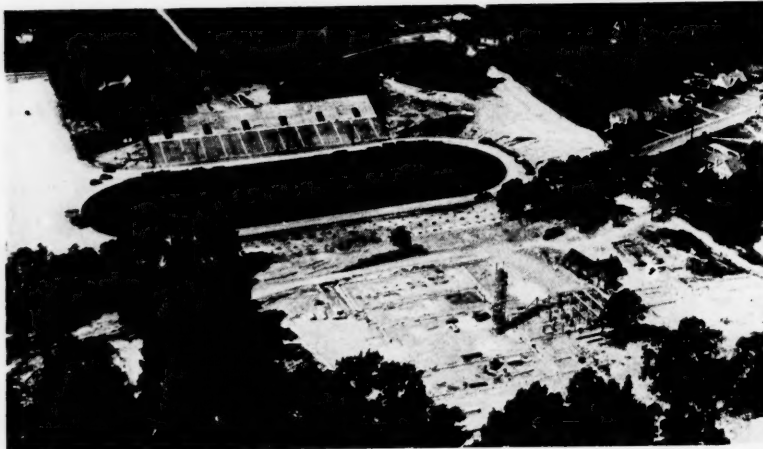
Gravel—Southern Sand and Gravel Co., Columbia, Miss.

Cement and lime—Moss-Banks Hardware Co., Philadelphia, Miss.

Paint—Orgill Brothers, Jackson, Miss.

Lumber—Acme Building and Supply Co., Meridian, Miss.

Seats and desks—Mississippi School Supply Co., Jackson, Miss.



\$21,000,000 EXPENDITURES DURING 1937 BY GEORGIA POWER COMPANY

\$7,000,000 for New Construction and Improvements, Largest Since 1930

TO meet the rapidly growing demand for electric, transportation and other facilities in its territory, the Georgia Power Company will spend for new construction and improvements approximately \$7,000,000, according to P. S. Arkwright, president of the Company. The 1937 budget for new construction is the largest since 1930. The Company's total operating and construction budgets for 1937 will be in excess of \$21,000,000. Of this amount \$7,500,000 will be paid to employees.

Approximately \$1,000,000 will be spent in the construction of 760 miles of new rural electric lines and extensions to its existing lines. This rural line construction will be a continuation of the 1936 program in which 930 miles of rural lines were built, and the Company will continue its policy of cooperation with the Rural Electrification Administration which has already granted or allocated to "cooperative" lines in Georgia more than \$1,000,000.

In a number of Georgia cities, important additions will be made to increase the capacity of substations and transmission and distribution lines. Among the larger projects are the following:

More than \$330,000 will be invested in Augusta and its vicinity to increase the city's power supply.

More than \$100,000 will be expended in Athens to provide for the growing use of electric service by residential, commercial and industrial consumers.

The electrical needs of Columbus will require more than \$210,000 for new facilities.

In Atlanta, more than \$1,000,000 will be spent to provide additional electric and street railway service and for improvements at Plant Atkinson, the Company's 100,000 horsepower steam-electric generating plant on the Chattahoochee River.

To afford an improved water supply for the western section of Georgia, a new substation will be constructed at Bremen. A new substation will also be built at Griffin and important improvements will be made at the substation at Thomaston.

The main transmission line from Atlanta to Macon will be rebuilt at a cost of more than \$275,000. This line serves Jonesboro, Griffin, Barnesville, Forsyth and other communities and the improvements will give these towns greater assurance against interruption to their service.

Completion of a transmission line from Eastman to Hawkinsville and construction of a new transmission line from Madison to Greensboro will strengthen the Company's Georgia network of power lines and give those towns and surrounding territory additional sources of power and additional protection against service interruptions. Construction

work on these two lines will require the expenditure of approximately \$100,000.

Miscellaneous improvements to service in at least 20 other cities will call for expenditures of more than \$500,000.

Tax payments to the Federal Government and to State and local agencies will amount to more than \$3,000,000.

Makes World's Largest Marble Sawing Mill

TENNESSEE is one of the leading States in the production of marble. The value of its marble output in 1929 was \$5,700,000, or over 34 per cent of the country's total that year. The development of the quarries in the vicinity of Knoxville brought about the development of milling machinery which has been shipped throughout the country and abroad. Recently, a marble sawmill unit, said to be the largest in the world, was made for shipment to Soviet Russia. Representing the latest mechanical development in stone working equipment, its manufacturers, the Ty-sa-man Machine Company, Knoxville, reports it is the only unit of its kind in the world, except one other which they made and is now in use by the Candora Marble Company.

Automatic in operation, it is 48 feet long, 20 feet high, and requires 210 horsepower. A block of rough marble 36x6x6 feet may be put through the machine, and turned out as a round column or the rough marble can be made into flat pilasters. Requiring 85,000 pounds of iron, steel and copper in its assembly, it is so delicately made that it can be regulated to register one and one-half thousandths of an inch.

Tin Container Industry Grows in South

PROSPECTS for the largest volume of business in many years are now indicated for 1937 in the tin container industry, reports O. C. Hoffman, president of the Continental Can Co. This organization now has plants in the South at Jacksonville, Fla.; New Orleans and Harvey, La.; Baltimore and Hurlock, Md.; Kansas City and St. Louis, Mo.; Memphis and Nashville, Tenn.; Houston, Tex.; Roanoke and Bedford, Va.; Wheeling, W. Va., and one just announced for Tampa, Fla.

Growth of the canned foods industry, canned beverages, canned paint and varnish and motor oils, is increasing demand for tin containers. The favorable statistical position and improved prices prevailing in the country's canning industry together with increasing per capita consumption of canned goods, offer prospects for increased planting of canning crops and larger cannery production schedules. Realizing the growing importance of the Southern market for its products, tin can manufacturers have been increasing their manufacturing facilities in this section. Among recent developments is a \$1,000,000 tin can factory for the American Can Company at Houston, Tex., a \$500,000 tin can factory at Tampa, Fla., for the Continental Can Co., and a \$300,000 addition to the can plant of the Owens-Illinois Can Co., at Baltimore, Md.

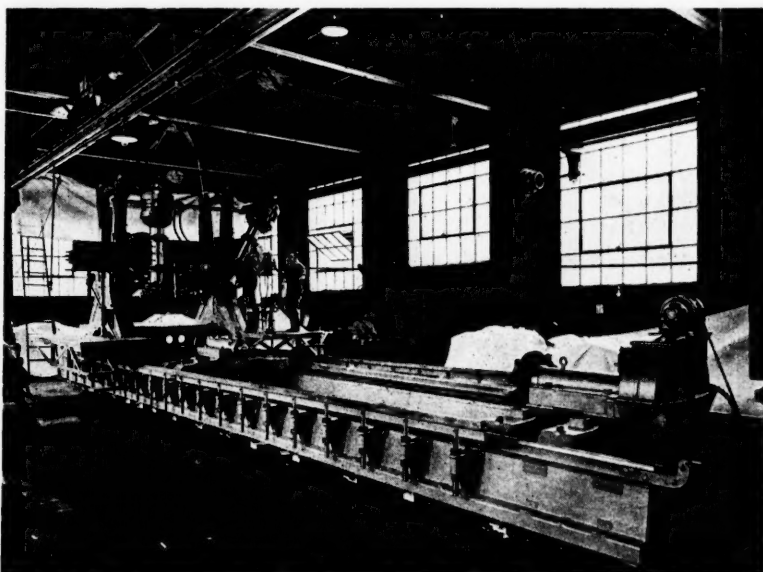
Expects More Business in 1937

MARYLAND METAL BUILDING COMPANY
Baltimore, Md.

Editor, MANUFACTURERS RECORD:

Our business in 1936 was a great improvement over 1935, and due to the fact that we do a lot of business in the South, and especially with the larger industries, we feel that the coming year is going to be way ahead of any year since the depression.

C. H. MICHEL,
President.



\$939,264,000 TOTAL AWARDS TOP PAST YEARS CONSTRUCTION RECORD OF SOUTH

FEATUREING the record engineering and building awards of \$939,264,000 in the South during 1936, was the progress made in industrial expansion and other privately financed building operations. Contracts let for industrial plant construction during December amounted to \$41,875,000 which brought the total for the year to \$322,010,000, more than doubling the 1935 awards and the highest industrial total recorded for any year in the South. Paper manufacturing, iron and steel products plants and oil and gas developments were the outstanding projects. Included in the engineering work were several important additions to railroad facilities in the Southern region.

\$79,851,000 Contracts Let During December

Awards for all classes of work in the South during December were \$79,851,000, of which over \$53,000,000 was undertaken by private interests. Proposed work reported by the DAILY CONSTRUCTION BULLETIN during December included \$12,910,000 for general building, \$40,588,000 for public structures, \$28,390,000 for highways and \$81,090,000 for industrial and engineering projects, or a total of \$162,978,000.

\$126,862,000 General Building Awards

General building awards for December totaled \$10,945,000, more than twice the

total recorded for the corresponding month of 1935. There were contracts for \$2,970,000 for apartments and hotel work, \$85,000 for association and fraternal buildings, \$685,000 for bank and office buildings, \$215,000 for churches, \$5,280,000 for dwelling erection and \$1,710,000 for store improvements. Total general building lettings for 1936 were \$126,862,000.

\$414,492,000 Industrial and Engineering Contracts

Industrial and engineering awards in December amounted to \$45,370,000, making the year's total more than \$414,492,000.

Southern Construction Activity

	December, 1936		12 months, 1936	
	Contracts Awarded	Contracts to be Awarded	Contracts Awarded	Contracts to be Awarded
General Building				
Apartments and Hotels	\$ 2,970,000	\$ 3,755,000	\$ 31,686,000	\$ 31,181,000
Association and Fraternal	85,000	105,000	925,000	3,253,000
Bank and Office	685,000	225,000	5,128,000	6,693,000
Churches	215,000	730,000	3,845,000	13,560,000
Dwellings	5,280,000	5,260,000	62,076,000	44,051,000
Stores	1,710,000	2,835,000	23,202,000	28,981,000
	\$10,945,000	\$12,910,000	\$126,862,000	\$127,719,000
Public Buildings				
City, County, Government and State	\$ 5,036,000	\$24,857,000	\$113,941,000	\$237,230,000
Schools	3,015,000	15,731,000	53,933,000	117,215,000
	\$8,051,000	\$40,588,000	\$167,874,000	\$354,445,000
Roads, Streets and Paving	\$15,485,000	\$28,390,000	\$230,036,000	\$392,325,000
Industrial and Engineering				
Drainage, Dredging and Irrigation	\$ 485,000	\$ 7,775,000	\$ 31,006,000	\$ 125,397,000
Filling Stations, Garages, etc.	400,000	335,000	5,522,000	6,486,000
Industrial Plants	41,875,000	58,715,000	322,010,000	487,245,000
Levees, Revetments, Seawalls, Dikes, etc.	250,000	2,215,000	14,359,000	35,004,000
Sewers, Drainage and Waterworks	2,360,000	12,050,000	41,595,000	122,070,000
	\$45,370,000	\$81,090,000	\$414,492,000	\$776,202,000
Totals	\$79,851,000	\$162,978,000	\$939,264,000	\$1,650,691,000

New Contracts Let During 1936 Included—

Buildings, \$524,772,000

Industries, \$322,010,000

Engineering, \$92,482,000

Notable in the South's industrial expansion during December was the letting of contracts for the \$3,500,000 kraft plant at Franklin, Va., for the Chesapeake Camp Corporation; first unit of the \$7,000,000 kraft mill at Fernandina, Fla., for the Container Corporation of America, and the \$5,000,000 kraft mill at Plymouth, N. C., for the Kieckhefer Container Corporation, and a third unit to cost \$3,000,000 for the Union Bag and Paper Company's new plant at Savannah, Ga. The total invested in kraft pulp and linerboard mills in the South during 1936 is estimated at \$60,000,000.

Expansion in the South's iron and steel producing facilities was started at a cost of \$53,000,000. Two major programs for the country's largest producers of steel were announced. United States Steel Corporation initiated a program for expending \$31,000 in the Birmingham area for its subsidiary, the Tennessee Coal, Iron & Railroad Co., and most of the \$35,000,000 development program of the Bethlehem Steel Company was scheduled for its Sparrows Point, Md., works.

Other major additions to the manufacturing capacity of the South were in the rayon field and extensive improvements in cotton, woolen and hosiery industries with a total expenditure during 1936 of over \$22,000,000.

The gas and oil industry of the South expended over \$50,000,000 in new refineries and pipe lines during 1936. The Witco Carbon Co. is constructing a \$1,250,000 carbon black plant at Dumas, Tex., and the Union Carbide & Carbon Chemicals Corporation, Union Carbide & Carbon subsidiary, is developing plans for a \$2,000,000 plant at Catlettsburg, Ky.

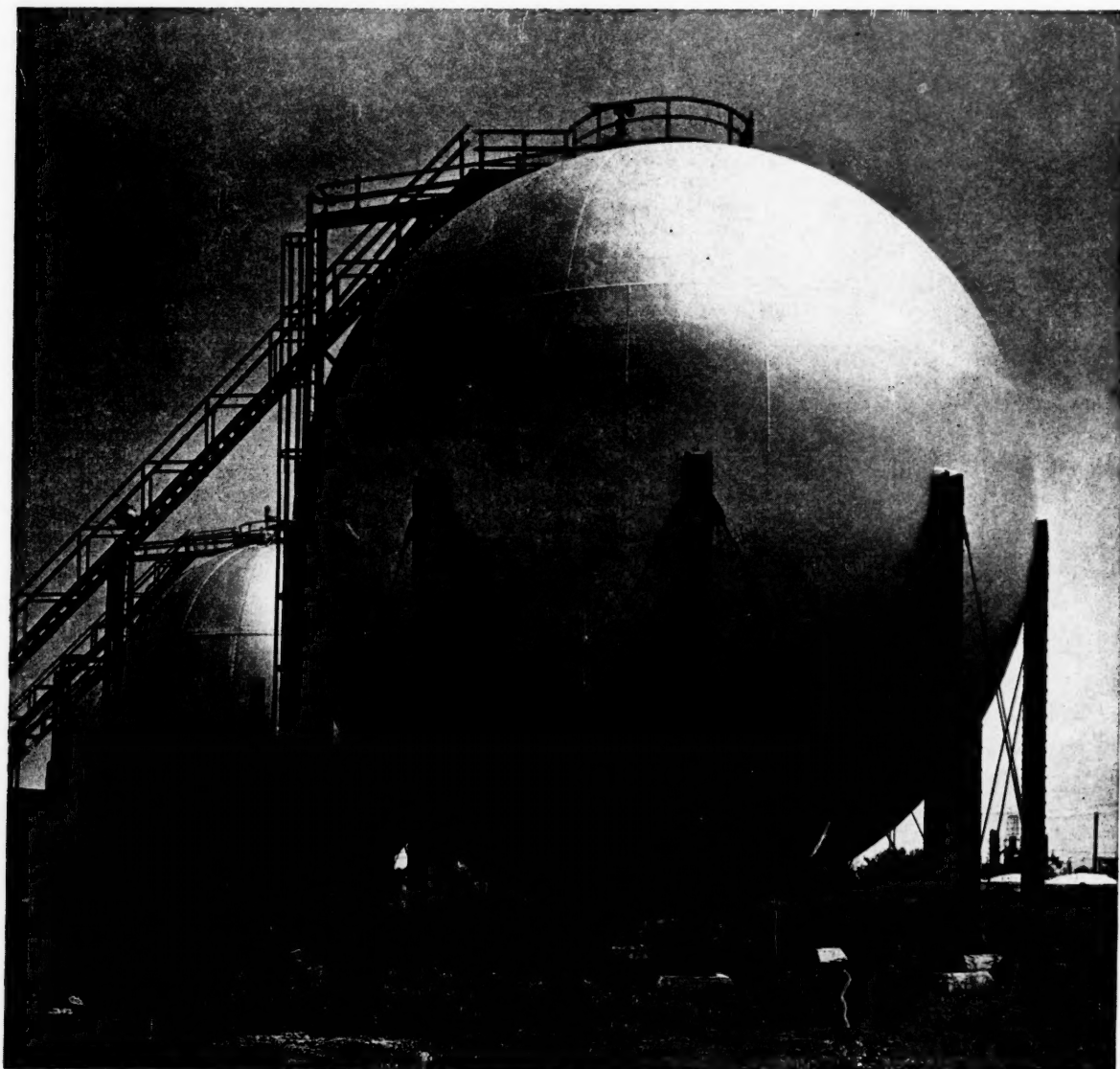
\$485,000,000 for Public Work

Awards for roads, streets and paving projects in December aggregated \$15,485,000, bringing the total for 1936 to \$230,036,000. Public building contracts in December represented a valuation of \$8,051,000. Federal, State and municipal construction awards in December were \$5,036,000. School contracts were valued at \$3,015,000. Public construction awards for 1936 in the South reached nearly \$485,000,000.

Railroad Improvements

Preparations were made by many railroads of the South for replacing equip-

(Continued on page 38)



STEEL TANKS for special purposes

The storage of volatile liquids and gases often requires special types of tanks. A typical installation is illustrated above. It consists of three Hortonspheres with a capacity of 10,000 bbls. each. They are used to store natural gasoline at a large oil refinery.

The purpose of storing natural gasoline under pressure is to prevent excessive evaporation losses which would take place if it were

stored in ordinary tanks. There are many other liquids which can be stored advantageously under pressure. We recommend the Hortonsphere for capacities of 2,500 bbls. or more.

In addition to special designs, we build standard storage tanks in a complete range of capacities. Write our nearest office for information or quotations.

CHICAGO BRIDGE & IRON COMPANY

Birmingham	1530 North Fiftieth Street	New York	3313-165 Broadway Bldg.	Philadelphia	1619-1700 Walnut Street Bldg.
Dallas	1408 Dallas Athletic Club Bldg.	Cleveland	2216 Rockefeller Bldg.	Detroit	1510 Lafayette Bldg.
Houston	2919 Main Street	Chicago	2106 Old Colony Bldg.	Boston	1510 Consolidated Gas Bldg.
Tulsa	1611 Hunt Bldg.	San Francisco	1040 Rialto Bldg.	Havana	Edificio Abreu 402

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

B-476

\$939,264,000 New Construction

(Continued from page 36)

ment and improving roadways. The Norfolk & Western Railway completed the outstanding railroad project in the South. This line, known as the Buchanan Branch extension was 42 miles long and cost \$4,000,000 to build. Pier Number 5, at Lamberts Point, Norfolk, was also finished by the Norfolk and Western. The Wabash Railway placed in service the \$3,325,000 bridge over the Missouri River, at Saint Charles, Mo.

Among the orders placed for new equip-

ment and track materials were those of the Norfolk and Western for 1,000 hopper cars, 100 box cars, and 40,000 tons of rail; of the Saint Louis-San Francisco for rail and track accessories to cost \$1,160,000; of the Seaboard Air Line for locomotives and cars estimated to cost \$3,000,000; of the Chesapeake & Ohio for 2,000 freight cars estimated to cost \$5,000,000, and of the Southern Railway for air conditioning equipment to cost \$1,000,000.

Power Developments

Power companies also recognized the necessity for increasing generating facilities. Preliminary work was started by the Arkansas Power & Light Co. on a

\$4,000,000 hydro-electric project on the Ouachita River and also started expanding its central power station at Little Rock at a cost of \$500,000. Contract was awarded by Duke Power Co. for equipment for the \$3,000,000 addition to its Riverbend steam electric station on the Catawba River above Charlotte. A \$1,800,000 addition was planned by the Louisville Gas & Electric Co. for its canal station. Both the Alabama and Georgia companies proceeded under extensive improvement programs and the Virginia Electric & Power Company completed a \$2,000,000 addition to its Twelfth Street plant. New Orleans Public Service, Inc., made ready to spend \$2,800,000 for extensions and additions to its Market Street steam generating plant.

Representative Projects in the South Last Month

Contracts Awarded

Alabama—Tennessee Valley Authority Steel; Tennessee Coal, Iron & Railroad Co., Birmingham, Contr.	\$233,000
Ala., Selma—City City hall and jail; Forcum-James Co., Memphis (low bidder)	180,000
Ala., Tuscaloosa—U. S. Engineer Lock and Dam; Hardaway Contracting Co., Columbus, Ga., Contr.	3,441,000
D. C., Washington—Southern Railway Co. Air-conditioning equipment; Safety Car Heating & Lighting Co., New York, Contr.	1,000,000
D. C., Washington—Chesapeake & Ohio Railway Freight cars; Pullman Standard Car Manufacturing Co., Butler, Pa., General American Transportation Corp., East Chicago, Ind.; American Car & Foundry Co., Huntington, W. Va., Contrs.	5,000,000
D. C., Washington—Alley Dwelling Authority Apartment units; Beauchamp & King (low bidders)	112,000
D. C., Washington—Howard University Library; Irwin & Leighton, Philadelphia, Contrs.	817,000
D. C., Washington—Gulf Oil Corp., Philadelphia Showroom; Avon Construction Co., Baltimore, Contr.	100,000
Fla., Fernandina—Container Corporation of America Pulp and paper board mill; Merritt-Chapman & Scott Corp., New York, Contr.	7,000,000
Fla., Bay Pines—Veteran's Administration Domiciliary barracks; Brice Building Co., Birmingham, Ala., Contr.	229,000
Fla., St. Petersburg—St. Anthony's Hospital Charles H. Young Construction Co., Chicago, Contr.	140,000
Fla., Tampa—Continental Can Co. Can plant; Austin Co., Cleveland, Ohio, Contr.	500,000
Ga., Atlanta—Veteran's Administration Infirmary; Charles Mon, Contr.	146,000
Ga., Atlanta—William T. Gayle, Jr. Apartment; Nichols Contracting Co., Contr.	225,000
Ga., Savannah—Union Bag & Paper Corp. Paper plant addition; Merritt-Chapman & Scott Corp., New York, Contr.	3,500,000
Ky., Covington—Board of Education School; J. & E. Warm Co., Cincinnati, Contr.	169,000
Ky., Louisville—City Fire headquarters; Sullivan & Cozzardt, Contrs.	151,000
Maryland—U. S. Engineer Dredging; Gabagan Construction Corp., Brooklyn, N. Y., (low bidder)	169,000
Mo., Baltimore—City Sewers; John Matricciani (low bidder)	271,000
Mo., Cape Girardeau—Board of Education School; E. A. Brunson Construction Co., St. Louis, Contr.	117,000
Mo., Normandy—Board of Education School; Kellermann Contracting Co., St. Louis, Contr.	111,000
Mo., St. Louis—St. Louis-San Francisco Railway Track materials; Tennessee Coal, Iron & Railroad Co., Birmingham, Ala., Contr.	1,100,000
North Carolina—Bureau of Public Roads Parkway; M. E. Gillioz, Monett, Mo., Contr.	656,000
N. C., Asheville—Ivey's, Inc. Store improvements; Gordon McCormick, Supr. of Constr.	175,000
N. C., Hickory—Coca Cola Bottling Co. Bottling plant; L. L. Merchant Construction Co., Asheville, Contr.	108,000
N. C., Plymouth—Kieckhefer Container Corp. Paper plant; James Stewart & Co., New York, Contr.	2,500,000
Okla., Enid—Board of Education School; Mcford Construction Co., Contr.	110,000
Okla., Fittstown—Mid-Continent Petroleum Co., Oklahoma City Pipeline; Sheehan Pipeline Construction Co., Tulsa, Contr.	150,000
Tenn., Johnson City—Treasury Dept. Post office; Algernon Blair, Montgomery, Ala., (low bidder)	197,000
Tenn., Memphis—Firestone Tire & Rubber Co. Plant improvements; S. & W. Construction Co., Contrs.	500,000
Tex., Austin—Bureau of Reclamation Dam; Brown & Root, Inc., Austin, and McKenzie Construction Co., San Antonio, Contrs.	5,781,000
Tex., Brownsville—Brownsville Navigation District Wharf and transfer shed; Dodds & Wedegartner, San Benito (low bidder)	245,000

Tex., Houston—General Electric Co. Plant; H. K. Ferguson Co., Cleveland, Ohio, Contr.	200,000
Tex., Houston—Humble Oil & Refining Co. Pipe; National Tube Co., Contr.	700,000
Tex., Mount Pleasant—Lucey Petroleum Co., Dallas Refinery; Frick-Reid Supply Co., Dallas, Contr.	500,000
Tex., Talco—City Water and sewer system; O. L. Criger, Mt. Pleasant, Contr.	100,000
Va., Franklin—Chesapeake-Camp Corp. Pulp and board mill; Rust Engineering Co., Pittsburgh, Pa., Contr.	3,500,000
Va., Norfolk—Navy Department Waterfront improvements; Roberts Paving Co., Salisbury, Md., (low bidder)	174,000
Va., Norfolk—Seaboard Air Line Railway Locomotives, cars; Pullman Standard Car Manufacturing Co., Birmingham, Ala.; Baldwin Locomotive Works, Eddystone, Pa., Contrs.	3,000,000

Proposed Construction

Ala., Leeds—City Waterworks	\$100,000
Arkansas—U. S. Engineer Earthwork; Greeson & Webster Co., Memphis, Tenn., Contr.	136,000
Ark., Paris—City Water supply; Carter Engineering Co., Little Rock, Engr.	200,000
Fla., Miami—Ford Motor Co. Exhibition Building	500,000
Fla., Miami Beach—Arlington C. Hall, New York Hotel and cabana colony	2,000,000
Ga., Atlanta—Edgewood Shoe Factory Shoe factory; Robert & Co., Engrs.	150,000
Md., Baltimore—Rustless Iron & Steel Corp. Plant expansion	625,000
La., New Orleans—New Orleans Public Service, Inc. Generating Plant addition	2,800,000
Miss., Holly Springs—City Rural electric lines	300,000
Miss., Laurel—City Civic Center; E. L. Malvaney, Jackson, Archt.	122,000
Mo., Kansas City—Fruehauf Trailer Co. Assembly plant; Charles E. Keyser, Kansas City, Kans., Designer	300,000
N. C., Asheville—Buncombe County School Board School program	200,000
N. C., Davidson—Davidson College Extension	985,000
N. C., High Point—Guilford County Office building; L. F. Voorhees and E. D. Everhart, Archts.	100,000
N. C., Wilmington—Tidewater Power Co. Rural electric lines	150,000
Okla., Oklahoma City—Board of Education Schools	1,100,000
S. C., Columbia—South Carolina Planning Board State office building	500,000
Tenn., Memphis—Lloyd A. Fry Roofing Co., Chicago Roofing plant	150,000
Tex., Austin—Stephen F. Austin Hotel Addition; Andrew Fraser, Galveston, Archt.	400,000
Tex., Corpus Christi—Barnsdall Oil Corp., Tulsa, Okla. Refinery	1,000,000
Tex., Gainesville—Board of Education Junior High School; Elmer G. Withers Architectural Co., Inc., Fort Worth, Archts.	165,000
Tex., Houston—Regen Forges & Engineering Co., San Pedro, Cal. Oil well supply plant	100,000
Tex., Hillsboro—Hill County Electric Co. Rural distribution lines	400,000
Va., Covington—Chesapeake & Ohio Railway Improvements	134,000
Va., Portsmouth—Superintendent of Schools Negro high school; Rudolph Cooke and Van Leeuwen and Alex. O. Feebe, Archts.	102,000
W. Va., Martinsburg—Berkley County School Board Schools; Buckler & Fenhagen, Baltimore, Md., Archts.	200,000
Va., Richmond—Department of Public Works Warehouse	200,000
W. Va., Wheeling—Wheeling Electric Co. Modernization program	100,000

This year **REACH FARTHER FOR \$ALES**



Stay at your desk if you need to, yet go where you will. Widen your field. Multiply your contacts. . . . Long Distance will take you to a dozen states in a day—a dozen cities in an hour. You can follow up inquiries, sift out live leads, make appointments for personal visits, avoid long lobby-waits, keep in touch between trips—quickly and inexpensively. . . . Reach for your telephone and reach for more business in 1937. The local telephone company will show you definite dollars-and-cents ways of doing it.



LONG DISTANCE RATES ARE NOW LOWER THAN EVER

IRON AND STEEL EXPANSION

\$53,800,000 Expenditure in the South

THERE is to be added to the steel making capacity of the South new plants and extensions involving an investment of \$53,800,000. The list of improvements to be undertaken is as follows:

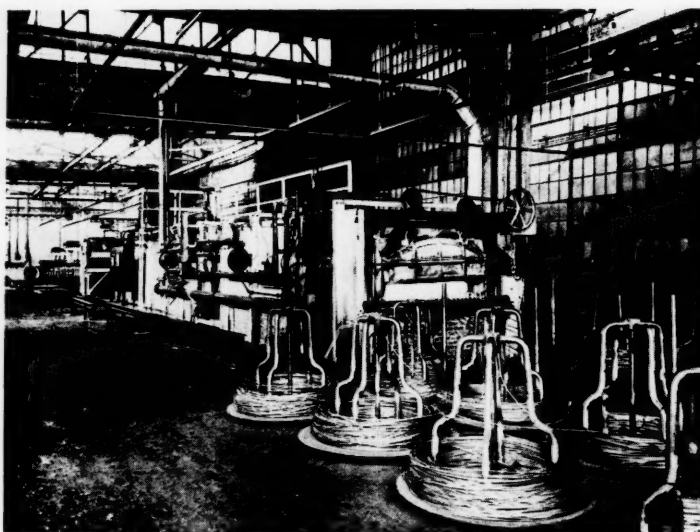
ALA., BIRMINGHAM—Tennessee Coal, Iron & Railroad Co., tin plate mill and other plant improvements	\$31,000,000
ALA., GADSDEN—Gulf States Steel Co., proposed expansion	2,000,000
ALA., BESSEMER—Flower Valve & Foundry Co., improvements	250,000
MD., SPARROWS POINT—Bethlehem Steel Corporation, expansion	20,000,000
VA., RADFORD—Lynchburg Foundry Co., pipe shop	420,000
TENN., CLEVELAND—Dixie Foundry Co., expansion	100,000
TEX., HOUSTON—Rheems Mfg. Co., drum plant	100,000

The making of iron and steel is a fundamental industry in the South as it is elsewhere. Iron making in this section dates from the early history of America. Those who watch iron and steel as a barometer of business find it a correct measure of general prosperity. The announcement of these improvements, therefore, assumes a significance beyond the ordinary because they indicate important investments and planning for expanding markets of the future. Production is now at the rate of 75 per cent of capacity.

The annual pig iron making capacity of the Southern blast furnaces, latest available figures being those for 1935, is 6,852,560 tons, and the steel ingot capacity, 7,935,540 tons. Facilities are available for producing 6,265,250 tons of finished hot rolled steel products. In 1929, the Southern iron and steel industry employed 34,000 workers, and the South's 30 iron and steel plants had an annual payroll of \$53,589,000.

A classified list showing the steel products capacity of the Southern states is as follows:

Steel Capacity	Tons
Rails	758,600
Bars and tie plates	310,300
Structural shapes	307,000
Plates	674,900
Black sheets	1,289,000
Hoops, cotton ties	135,000
Hot rolled strip	240,500
Black plate	604,000
Bars	978,250
Wire rods	455,700
Skelp	375,000
Blooms, billets	169,400
Pipe and tubes	371,000
Sheets:	
Cold rolled	736,800
Galvanized	540,080
Long terne	25,000
Cold rolled strip	65,000
Tin and terne plate	525,100
Wire:	
Plain	397,500
Galvanized	202,800
Barbed	98,500
Fence	108,700
Nails and staples	203,200



New Wire Mill
Sparrows Point, Md., plant of the Bethlehem Steel Co.

RIISING DEMAND FOR STEEL

By
Frank Cordes
President Blaw-Knox Company

MAKERS of steel mill equipment and other industrial facilities are facing an almost unprecedented demand for their products in the new year. Steel, like many other industries, dropped far behind in maintenance and improvement work during the lean years. Now that the volume is expanding rapidly, they are finding that more modern facilities would be advantageous. While the industry has been operating in the neighborhood of 75 per cent of its theoretical capacity, it actually is working close to its practical capacity. Present day requirements of steel consumers are so exacting that the industry cannot work much closer to its theoretical volume than it did in the latter part of 1936.

Realization of this has already been seen in the sharp spurt in purchasing of rolling mill rolls as well as entirely new equipment, in addition to the great wide strip mill installations started during the year.

The next important development will be the building of additional open hearth

furnace capacity and improvement of existing open hearth furnaces, and this will be reflected to a marked extent in the business of companies making this type of equipment.

It is expected that the Nation's utility companies will engage in large expansion programs. This industry is expected to spend from 15 per cent to 20 per cent more in 1937 than in 1936. The rising demand for electric power is straining facilities, and this branch of the utility industry is expected to spend about \$400,000,000 for new buildings, transmission lines, and power house equipment. This would represent a gain of 40 per cent over the volume of the old year.

The railroads also are finding their capacity overtaxed and have resumed purchases of rails and rolling stock in substantial volume. The extent of this change can be seen by the fact that new freight cars ordered in the first 10 months of 1936 totaled 39,643, while only 9158 were on order in the corresponding period of 1935.

While all construction still is far below its former peak, it has shown impressive gains over 1935, and it would be natural to assume that the continuation of these gains will result in the purchase of more steel and equipment, such as excavating machinery, concrete mixing machinery, and allied lines.

Construction costs have been soaring. A shortage of skilled labor is widely anticipated, and both skilled and unskilled wage rates have increased. This feature alone is moving the equipment manufacturer into a more strategic position, since money will be spent for facilities to save time.



"The world is so full of a number of things"

If all of the articles made of steel sheets were reproduced in a catalog, it would dwarf even the three-inch thick catalogs of our large mail-order houses. On this page are reproduced a few of the many articles fabricated from Gulfsteel Sheets by the American Sheet Metal Works of New Orleans. This customer fabricates a great many products for marine use, and they have found that the *rust-resisting* qualities of Gulfsteel Sheets make them especially satisfactory for their work.

GULF STATES STEEL COMPANY
BIRMINGHAM, ALABAMA



RURAL MAIL BOX...made in every particular to conform to Post Office Department specifications



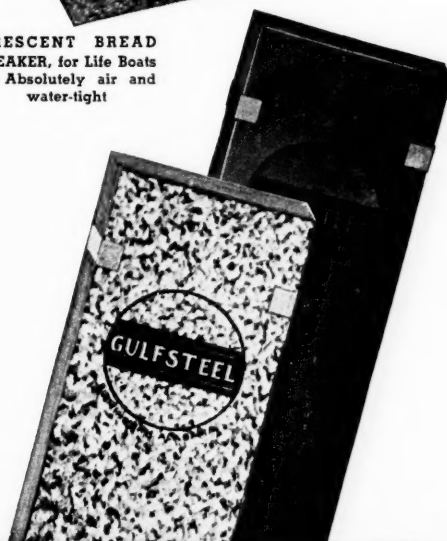
CRESCENT BREAD BREAKER, for Life Boats
... Absolutely air and water-tight



CRESCENT RAT GUARD... Can be adjusted to fit any size of rope or steel cable... Exceedingly strong



HOAL'S LEAK-PROOF LOUVER
... This patented Louver really keeps out the rain, yet gives proper ventilation



GULFSTEEL SHEETS

THE OUTLOOK IS BRIGHT FOR THE SOUTHERN PINE INDUSTRY

SUBSTANTIAL forward strides have been made by the Southern pine industry during 1936. Lumber has regained considerable of the ground it lost during the depression and has excellent prospects in the new year. There may be retarding influences from legislation and Federal tax uncertainties, but these will scarcely prevent the demand that is bound to arise out of the pressing need for new homes and for other facilities requiring a large volume of lumber. Some developments, such as those designed to encourage and aid consumer buying, and those designed to stimulate and sustain healthy competition, should be helpful.

Output Increased 25 Per Cent

The Southern pine industry in 1936 produced some 6,700,000,000 board feet of lumber. This is the largest output since 1930, an increase of 25% over 1935 and more than twice the depression low output of 1932. As compared to 1930, it is off 10%, and about 42% below the output in the last normal year of 1929.

Demand at High Level

Both demand and shipments top production in 1936, and likewise are at their highest levels since 1930. Operating mills are on about a 45-hour week basis. Southern pine stocks now on hand aggregate an estimated 1,535,000,000 board feet. This is a record low mark for pine inventories. It is a decrease of 2% from a year ago and is off 56% from the peak mark of 3,458,000,000 feet recorded on January 1, 1931. Severe curtailment of production was necessary in order to effect this liquidation in stocks. The result has been twofold; first, a preservation of timber reserves for future cutting when and as justified by the demand, and, secondly, the soundest and strongest statistical position in the history of the industry.

Lumber's Part in Recovery

Building operations and business in general are progressing at a rate that soon must develop a tremendous market for lumber. The largest gains in population have been confined recently to the Southeastern states. It is predicted that the South will lead the way to a new era of unprecedented prosperity which they believe now is rapidly developing. The Southern lumber industry, in its present strong position, and with more than 125,000,000,000 board feet of choice timber available for sawing, should play a major part in the recovery. It will be the principal source of supply for home construction material and for farm structures, and it will be used extensively in the rapidly expanding activities of carriers and shippers. The outlook for home building and

**6,700,000,000 Board Feet
Produced in 1936, 25 Per
Cent Above 1935 and Largest
Since 1930 — Demand
Increasing and Stock at Record
Low — Prices Tend
Upward**

By

H. C. Berckes

Secretary-Manager, Southern Pine Association

for general business prosperity, especially in the South, has never been more promising.

30,000,000,000 Board Feet for Residential Building

It has been estimated that an expenditure of \$6,440,000,000 for new residential buildings is needed immediately in the United States in order to restore to the pre-depression level the ratio of homes to population. About one-half of this total, or \$3,220,000,000 would be expended for building materials, of which lumber (rough or dressed) would take \$888,000,000 and millwork \$414,000,000, or the two combined \$1,302,000,000, or 40% of the materials requirements and 20% of the total cost involved. This means that some 30,000,000,000 board feet of lumber (not

including millwork) is needed now for new residential construction, just to recover the normal ratio of homes to population. This estimate does not take into consideration shortages that existed in the normal years.

The cumulative shortage in residential building in the United States since 1925, including adjustment for population increase, according to the National Industrial Conference Board, will aggregate probably \$15,000,000,000. The lumber needed to fill this shortage (not including millwork) would cost about \$2,000,000,000. This would indicate an actual need for upwards of 75,000,000,000 board feet of lumber to make up the residential shortage that has accumulated during the past 10 years.

Vast Potential Demand

The next ten years may find some \$40,000,000,000 invested throughout the country in residential buildings, including population requirements, old shortages and replacements. If lumber be used in the same volume it has in past years, this would create a demand for lumber (not including millwork) for residential construction exclusively, of some 200,000,000,000 board feet, or some 20,000,000,000 board feet a year. If these estimates are not exaggerated the lumber industry of the United States over the next ten years will be taxed to its utmost to supply its share of the demand for materials used in new home construction alone. The need exists, if ways and means are found to supply funds for labor and materials, and if the supply of labor and materials be equal to the anticipated demand. The immediate deterrents are high labor costs, economic uncertainties, and inadequate

(Continued on page 58)

SOUTHERN CYPRESS MILLS ACTIVE

By

Benjamin R. Ellis

Southern Cypress Manufacturers' Association

THE general improvement in business and, in particular, the vast increase in home building, once more brought into production all of the cypress producing units in the South. During the depression and up to the middle of 1935, probably 60 per cent of the cypress producing mills were shut down.

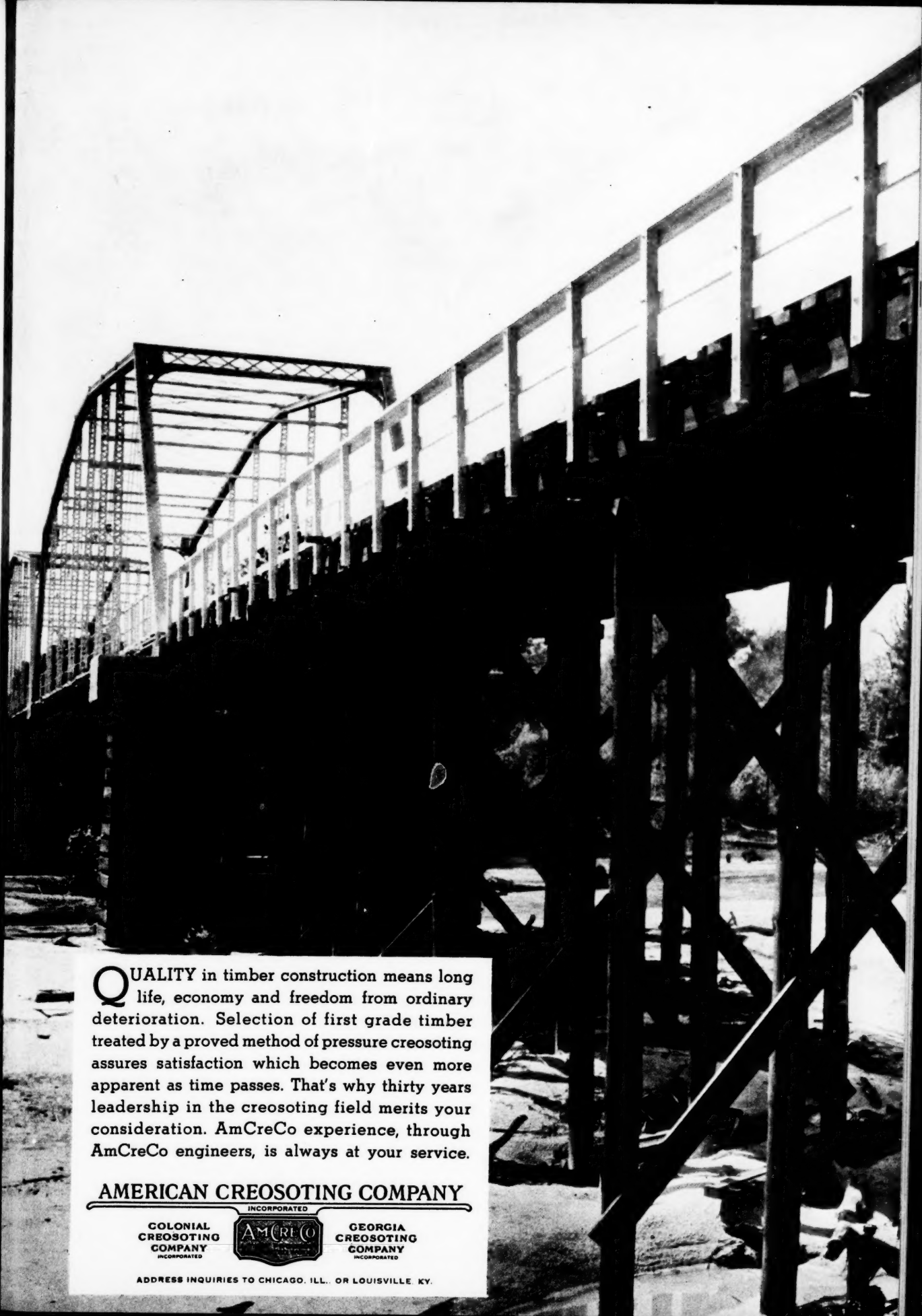
Cypress is produced by three types of saw mills. The largest production comes from the large mills which produce cypress exclusively. Then we have the mills producing cypress and yellow pine, and the mills producing cypress and many varieties of hardwoods.

While no production records are as yet

available, the year 1936 will show a production of approximately 400,000,000 feet. Available stocks of dry cypress will increase from now on to the point where large dry stocks are again the fixed rule rather than the exception as they have been for some time past.

The year 1936 brought to the highest state of perfection the ability of the large cypress producers to successfully kiln dry part of their product. During the years of the peak production it was impossible to kiln dry cypress fresh from the saws. With the development of controlled humidity and cross circulation to its present state of success, it is now possible to kiln dry cypress as well as any other species. It is only one inch and one and one quarter inch cypress that is generally kiln dried.

With the development of a dry kiln able
(Continued on page 58)



QUALITY in timber construction means long life, economy and freedom from ordinary deterioration. Selection of first grade timber treated by a proved method of pressure creosoting assures satisfaction which becomes even more apparent as time passes. That's why thirty years leadership in the creosoting field merits your consideration. AmCreCo experience, through AmCreCo engineers, is always at your service.

AMERICAN CREOSOTING COMPANY

COLONIAL
CREOSOTING
COMPANY
INCORPORATED



GEORGIA
CREOSOTING
COMPANY
INCORPORATED

ADDRESS INQUIRIES TO CHICAGO, ILL. OR LOUISVILLE, KY.

GOOD ROADS AND MOTOR TRANSPORT

On to New Orleans

ROAD builders of the nation will turn to New Orleans, January 11-15, where the American Road Builders' Association will hold its 1937 annual convention and highway exhibit. With preparations for one of the greatest programs in the Association's history, there will be presented discussions of practically all phases of highway work to the expected record attendance of engineers, highway officials and others interested in road building.

In furthering the cause of good roads in the Southern States, and in behalf of the first meeting of the A. R. B. A. in the South, the MANUFACTURERS RECORD devoted practically its entire monthly review number of the January 4, DAILY CONSTRUCTION BULLETIN to highways.

Principal topics discussed include:

Roads for the Future
Designing and Construction of Safer Roads, by C. N. Conner
Stabilized Road Construction, by H. F. Clemmer
Soil Stabilization With Tar, by A. R. Taylor
Calcium Chloride Stabilized Roads
Cement Stabilization Experiments
Pine Tar Successful as Binder
By-Product of Paper Making Used as Road Binder
Salt Stabilization
Built-in Safety—America's Highway Problem, by Charles M. Upham
Grade Crossing Elimination
Highway Improvement With Federal Funds in the Southern States, by Thomas H. MacDonald
Highway Construction—\$300,000,000 Expended by State Highway Departments in the South
Asphalt in Highway Construction, by Bernard E. Gray
Diverting of Highway Funds, by Jay H. Williams
Motor Transportation Laws, by Arthur C. Butler
Motor Regulations That Impede Progress, by Roy F. Britton
500 Miles of Cotton Roads Under Test, by C. K. Everett
Contract System vs. Day Labor
Mechanical Developments in Machines and Equipment
Important Brick Paving Jobs
Highway Lighting

\$300,000,000 Expended on Southern Highways

GOOD roads development in the South during 1936 by State Highway Departments called for an expenditure of \$300,000,000, including road and bridge construction and maintenance. Additional millions were spent for county and city road and bridge work not under State control. Indications are that 1937 expenditures will be equally as large.

The following is a resume, by States, reported by State Highway Departments:

Alabama—Expenditures amounted to \$14,969,116, of which \$9,118,251 went for construction, \$1,928,097 for maintenance and \$562,914 for purchase of equipment. Alabama has approximately 61,118 miles of roads. The State system consists of 6,470 miles, 41 per cent of which are paved. Probable program for 1937, \$9,071,446.

Arkansas—Contract awards in 1936 totaled \$6,000,000.

Florida—\$13,644,303 spent. Construction cost \$9,626,114; maintenance, \$4,018,189. Highway equipment is valued at \$827,722; annual expenditures for equipment, \$301,031. Florida's roads total 41,500 miles; the State system, 12,135 miles.

Georgia—Total expenditures of \$12,129,088 apportioned \$10,746,251 for construction; \$1,382,836 for maintenance. In 1937 will probably spend \$16,000,000 to build 1,000 miles roads; \$3,000,000 for 25,000 feet of bridges; State Highway equipment is appraised at \$767,778; annual expenditures for equipment placed at \$300,000. Total road mileage in Georgia is 96,000; under State jurisdiction, 9,287 miles.

Kentucky—Of \$13,000,000 spent, \$9,000,000 was for construction; \$4,000,000, for maintenance. The 1937 program \$7,000,000. Equipment owned by State is valued at \$3,000,000; estimated annual expenditures for equipment, \$1,500,000. Total road mileage in Kentucky is 63,000. Of the 9,000 miles under State jurisdiction, 900 miles are improved, 8,100 miles are surfaced.

Louisiana—More than \$25,768,960 spent. Construction cost, \$22,268,960; maintenance, \$3,500,000. Estimated 1937 program to cost \$22,600,991 for 980 miles of roads. Cost of State Highway equipment is \$2,850,000; annual expenditures, \$450,000. Louisiana has 40,000 miles of roads; 18,277 miles are under the Highway Commission; 13,854 miles of this latter figure are improved; 13,615 miles, surfaced.

Mississippi—Construction and maintenance cost \$9,468,372; \$7,225,218 going for the former; \$2,243,154, for the latter. The 1937 program will cost \$25,500,000. Estimated cost of equipment is \$750,000; annual expenditures, \$100,000. State highways total 6,370 miles.

Maryland—Spent \$7,040,278, or \$5,153,278 for construction; \$1,886,999 for maintenance. State Highway equipment value is \$1,860,600; annual expenditures are estimated at \$207,077. Of the 15,052 miles of roads in the State, 13,056 are under State jurisdiction.

Missouri—Amount spent was \$15,600,000. Of this \$11,000,000 was for construction; \$4,600,000 for maintenance. Expenditures for 1937 will approximate \$10,000,000. Highway equipment is valued at \$3,257,000. Missouri has 104,000 miles of highways; 17,000 miles of which are under State control, and of these, 14,000 miles are surfaced.

North Carolina—Total spent was \$19,920,000, of which \$7,420,000 went for construction; \$12,500,000 for maintenance. Estimated 1937 expenditure, \$10,200,000 for construction, bridges to be built to cost \$3,800,000. Cost of State highway equipment is \$3,000,000; annual expenditure, \$600,000. State system comprises 11,067 miles; county system, 47,145 miles.

Oklahoma—Mileage of the Oklahoma State

highway system, on which \$21,569,929 was spent in 1936, is 8,447. Approximate estimate for 1937 expenditure is \$3,800,000 for maintenance; \$5,500,000 for regular Federal Aid.

South Carolina—Construction expenditures amounted to \$3,288,771; expenditures for maintenance, \$1,733,618. On the State highway system on June 30 were 6,137 miles. Approximately 195 miles of hard-surfacing were completed during the fiscal year.

Tennessee—Disbursements total \$9,705,173. Mileage of the State primary system totals 7,261. The assured program for 1937 is \$3,300,000, with a possible total program of \$9,634,000.

Texas—The State spent \$45,424,986, of which \$33,817,143 was for construction; \$9,360,005 for maintenance; construction contracts total \$51,625,846. Program for 1937 probably to be around \$17,600,000. Total road mileage in Texas is estimated at 180,000. The 21,484 miles in the State system include 18,814 miles improved; 16,295 miles surfaced. Inventory value of State Highway equipment is \$1,224,637; estimated annual expenditure, \$400,000.

Virginia—The \$8,238,166 spent for construction and \$7,222,572 spent for maintenance totals \$15,460,738. Expenditures for primary and secondary work in 1937 are estimated at \$21,000,000. Estimated cost of equipment is \$5,500,000; annual expenditures, \$2,900,000. Mileage of the primary system is 9,241; of the secondary system, 37,000.

West Virginia—A total of \$12,575,000 was spent for road work, including \$7,530,000 for construction; \$4,725,000 for maintenance. Inventory value of State Highway equipment is \$1,390,149; annual expenditures, \$500,000. The primary system of roads is 4,787 miles long; the secondary system, 28,891 miles.

New Automotive Records

PRELIMINARY figures issued by Alfred Reeves, Vice President, Automobile Manufacturers Association, show that new records were made in 1936 in total passenger car, truck and bus registrations, retail sales of trucks, gasoline consumption and aggregate taxes paid by motor vehicle users.

Total production value of motor vehicles, accessories and replacements in the United States and Canada in 1936 was \$3,626,612,000.

	1936	
	Production	Value
Passenger cars	1,991,000	\$1,991,300,000
Motor trucks	799,000	457,825,000
Parts		874,887,000
Tires		303,000,000

	1936 Registration
Motor vehicles	28,270,000
Motor cars	24,250,000
Motor trucks	4,020,000

FEDERAL AID HIGHWAY FUNDS FOR SOUTH (Apportionments for Year Beginning July 1, 1937)

	Regular Federal Aid	Secondary or Feeder Roads	Grade Crossings	Total
Alabama	\$2,664,693	\$532,939	\$1,015,170	\$4,212,802
Arkansas	2,187,752	437,556	893,403	3,518,705
District of Columbia			250,000	250,000
Florida	1,704,765	340,953	712,816	2,758,534
Georgia	3,233,279	616,656	1,223,099	5,103,034
Kentucky	2,349,316	469,863	919,174	3,738,353
Louisiana	1,829,490	365,898	799,226	2,994,614
Maryland	1,043,938	208,787	519,993	1,772,718
Mississippi	2,247,708	449,542	806,707	3,503,957
Missouri	3,877,890	775,578	1,528,920	6,182,388
North Carolina	2,986,371	599,674	1,244,662	4,830,707
Oklahoma	2,995,620	599,124	1,156,175	4,750,919
South Carolina	1,732,188	344,438	732,928	2,819,554
Tennessee	2,681,110	536,322	958,753	4,176,085
Texas	7,957,610	1,591,522	2,724,825	12,273,957
Virginia	2,328,369	465,674	941,656	3,735,699
West Virginia	1,390,447	278,089	671,712	2,340,248
South	\$43,212,546	\$8,642,509	\$17,119,219	\$68,974,274
United States	\$125,000,000	\$25,000,000	\$50,000,000	\$200,000,000

THE OSGOOD COMPANY - MARION, OHIO

INVADER-COMMANDER-CONQUEROR

VICTOR-CHIEF

3/8 to 2 CU YARDS

SHOVELS
DRAGLINES
CLAMSHELLS
GAS-DIESEL
AND ELECTRIC

MAIN OFFICES
AND PLANTS
MARION, OHIO

Write for
Specifications

BACK HOES
PILE DRIVERS
SKIMMERS
CRANES

HERCULES
ROAD ROLLERS
BUILD THE HIGHWAYS
OF THE NATION
6 to 15 TONS GAS-DIESEL

GENERAL AND INVINCIBLE
1/2-3/4-1 Cu yards

The
HERCULES Company
MARION, OHIO

The General Excavator
MARION, OHIO.

EQUIPMENT

NEW AND IMPROVED

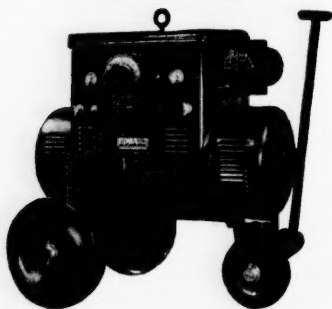
Sterling Crankless, Oil-Burning Engine

A new Sterling crankless, opposed piston, two-stroke cycle compression ignition oil-burning engine, has been placed on the market for 1937, after a long period of development by the Sterling Engine Company, of Buffalo, N. Y. Simple in operation and maintenance, the first units in production are of 150 horsepower, built for marine use, but readily adaptable to commercial purposes. Two larger Sterling engines of the crankless, oil-burning type, are expected to be brought out during the year. In the new engine, pistons operate horizontally with two in each cylinder, eliminating more than half the reciprocating parts found in the conventional internal combustion engines, it is claimed, while the number of bearings is reduced to a minimum. Chief among parts eliminated are the crankshaft, cam shaft, valves and cylinder head. In place of the crankshaft there is a straight shaft of greater strength which receives power from the pistons through inclined discs mounted, one on each end. The engine model is known as CD-425.

Motor Control Saves Current on Arc Welders

Announced at the National Metal Show in Cleveland, Ohio, a new development in arc welding by The Hobart Brothers Company, Troy, Ohio, called forth favorable comment from users of electric motor-driven arc welding equipment. The new Hobart "Serial MN Current-Saving Models" embody, in addition to an improved type of wheel mounting with low center of gravity, what is termed as "Selective Motor HP Control," and is said to be the first arc welding set equipped with

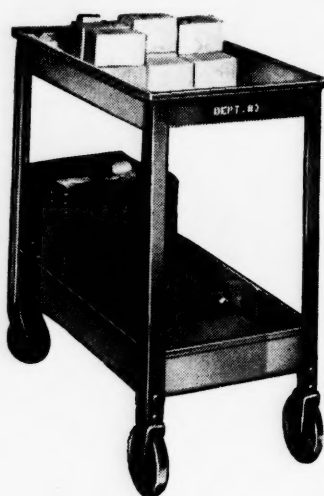
Serial MN Welder



economical control of the motor as well as the generator. Advantages claimed for it are that welding current costs are cut 30 to 50 per cent in average work; power penalties due to poor power factor of equipment are avoided; expensive re-wiring of plants is eliminated, and idling and light load power losses are cut in half.

Stock Handling Carts

Designed to speed up order filling and to eliminate much time and trouble connected with stock-keeping and stock-handling, a new stock-handling cart is announced by Lyon Metal Products, Incorporated, Aurora, Ill. The cart is 32 inches high, 30 inches long and 16 inches wide, its handy size permitting its use in aisles between storage bins, thus eliminating many steps required to load larger and bulkier skids that can be used only in the



main aisles of the stock room. It is equipped with four large rubber-tired casters, the front casters being swivel and the rear casters stationary. Two shelves, 3 inches deep, are provided and another shelf may be added if desired.

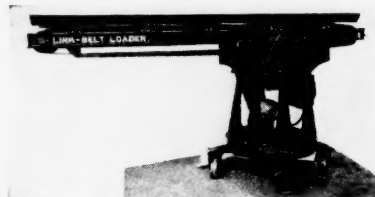
Crystal-Clear Plastic Discussed

The subject chosen for discussion at the meeting of the Science Forum of the New York Electrical Society held on December 16 was Pontalite, a new crystal-clear plastic recently announced by the Du Pont Company of Wilmington, Del. The speaker was A. E. Pitcher, General Manager, Plastics Department, E. I. Du Pont de Nemours & Company, Inc. "Pontalite," known chemically as methyl methacrylate, represents the result of years of research for a rough, stable, crystal-clear, true thermoplastic resin which may be machined, tooled, and polished to a high luster.

Inexpensive Box-Car Loader

The development of a new type of inexpensive box-car loader for handling bulk materials without creating a lot of

dust or degradation in the loading operation has been announced by Link-Belt Company, Philadelphia, Pa. The anti-friction belt conveyor constituting the loading element of the machine is supported on a horizontal boom so arranged that it may be racked back and forth, or rotated 360 degrees by hand, on the



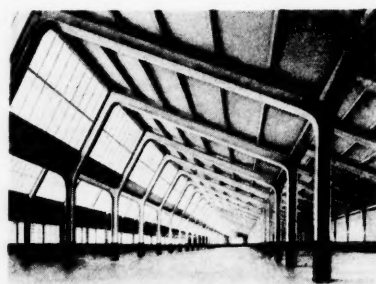
Link-Belt Loader

caster-mounted truck on which the boom is mounted. The conveyor is operated at a comparatively slow speed and has a discharge height of 5 feet. Three men can move the machine into and out of cars.

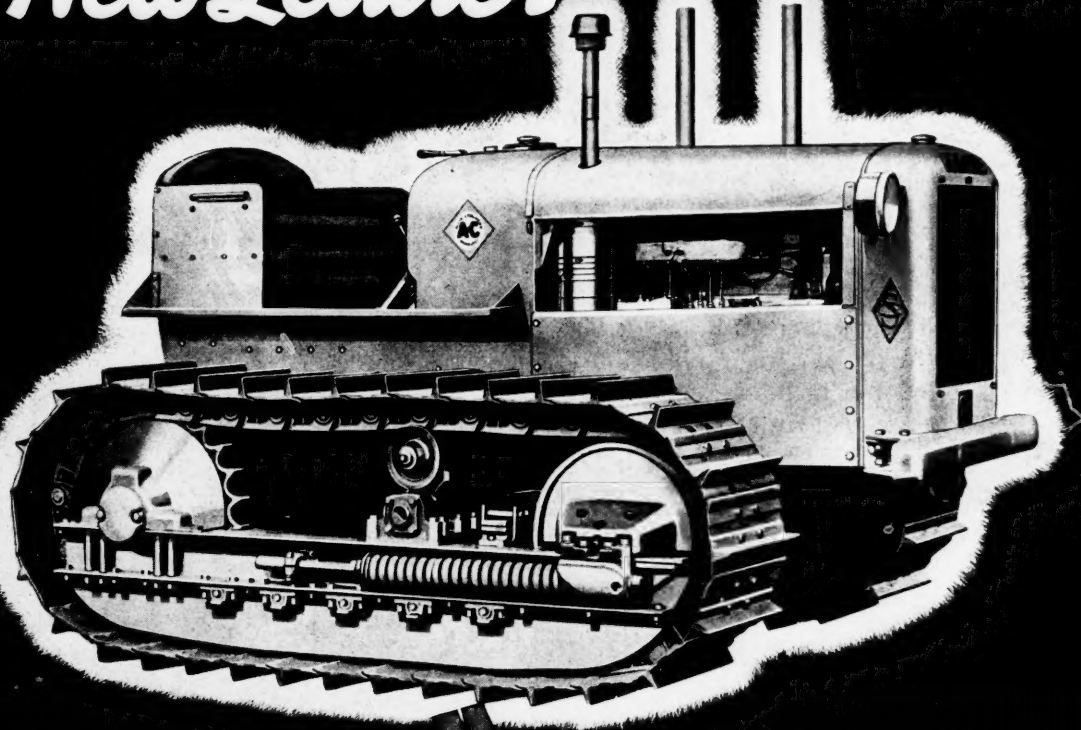
New Type Construction for Industrial Buildings

Through the use of welded rigid frame construction, The Austin Company, Cleveland, Ohio, has developed a new design for single-story industrial buildings, providing broader factory aisles, unobstructed head room to full ceiling height, and the maximum uniform daylight throughout. Stripped of cross members and trusses, the new type has a continuous rigid saw-tooth frame formed by the welding of rolled beam sections which permit economical construction of aisles up to 50 feet wide. It is particularly adaptable to the requirements of machine shops, precision parts production, and textile, food and printing industries, where air-conditioning is a factor of increasing importance. According to Albert S. Low, vice president and chief engineer of the Austin organization, extensive research at the Austin fabricating shops preceded the announcement of the new type of construction which adapts the natural tree form of structural design to industrial purposes.

Welded Frame Construction



The New Leader...IN ITS POWER CLASS



MODEL S-O

CONTROLLED IGNITION OIL TRACTOR

TO MEET THE NEED for a fast, flexible tractor in this particular power class... Allis-Chalmers presents the sturdy, fast-stepping Model "S-O." An entirely new tractor—new engine, new transmission, new tracks—all designed to work together; all built to fit the job. Handles 7 to 8-yard scrapers, 12-foot blade grader or 10-yard track wagon. New Constant-Mesh Transmission—you shift gears with the tractor in motion. Five speeds forward—up to 6.37 miles an hour. Operates on low cost Diesel fuel oil—with the exclusive A-C advantage of Controlled Ignition—one of the greatest tractor improvements in years. The "S-O" brings a new kind of tractor performance to its size and price class.

CONTROLLED IGNITION
FIVE SPEEDS FORWARD; ONE REVERSE
DIESEL FUEL OIL ECONOMY
CONSTANT MESH TRANSMISSION
TRUCK-TYPE GEAR SHIFT
ROLLER BEARING TRACKS
CONTROLLED TRACK ALIGNMENT
MORE POWER PER POUND
INSTANT STARTING
UP TO 6.37 MILES AN HOUR

HANDLES 10-YARD TRACK WAGON...

OR 12-FOOT ALLIS-CHALMERS BLADE GRADER

HANDLES 7 TO 8-YARD SCRAPERS



ALLIS-CHALMERS *Controlled Ignition* **OIL TRACTORS**
TRACTOR DIVISION—MILWAUKEE, U. S. A.



GET ALL THREE

An automobile manufacturer once said, "Look at all three." We say, "You get all three . . . quality plus satisfaction plus service . . . when you specify ACI Quality Coals."

Mined in Kentucky, Tennessee, Virginia, and West Virginia, these coals come from the finest bituminous deposits in the world. According to a well-known authority, these "coals average lower in ash content than" coals from "any other of the large producing areas of the country."

Low ash, uniformly low moisture, minimum sulphur content, high heat (B.t.u.) value, and high average in ash softening temperature establish the excellence of ACI Quality Coals.

Satisfaction accrues to retailers when ACI Quality Coals build better business . . . to householders who get more economical results . . . to industries which find ACI Quality Coals mean low overhead. Another "plus" is Appalachian Service.

APPALACHIAN COALS, INC.

TRANSPORTATION BUILDING
CINCINNATI, OHIO



THE GEORGIA MARBLE COMPANY
Producers and Manufacturers of
GEORGIA MARBLE
TATE, GEORGIA
Atlanta • Chicago • Cleveland • Dallas • New York



DRAWING MATERIALS

Drawing Instruments, Slide Rules, Planimeters, Drawing and Tracing Papers, Drafting Room Furniture, Surveying Instruments, Tapes.

PIGMENT Waterproof Drawing Ink
in black and white and a wide range of opaque colors.

Catalogue sent on request. Inquiries solicited.
F. WEBER CO. 227 PARK AVENUE
Est. 1853 BALTIMORE, MD.

THE STAGE IS BEING SET

America is preparing for a notable industrial advance. Is your business prepared to take advantage of it?

Correspondence invited

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, *President*
BALTIMORE, MARYLAND

Member Federal Reserve System—Member Federal Deposit Insurance Corporation

FINANCIAL NEWS

Profit Tax Amendments

IT is expected that there will be active support in Congress for amendments to the undistributed profit tax measure for the purpose of giving relief to corporations over-burdened with debt.

Under the law as it stands, the tax must be paid on earned surplus, notwithstanding the obvious use to which earnings should be put of paying off over-due obligations. It can be seen that it proves especially burdensome to companies left by the depression with impaired credit, as their borrowing capacity to meet even the tax bill is limited. This is equally true where earned surplus, as often happens, is represented by inventories or plant equipment.

Legal Reserve Requirements

AS previously discussed in this column, the question of increasing legal reserve requirements for member banks of the Federal Reserve System, continues to claim attention. It is believed likely that before long the Board will decide to issue the order.

Money coming back after the holidays will assist banks in meeting the requirements of a new regulation of this kind, and it may be necessary for banks not well provided with resources at present to restrict some of their call loans.

N. & W. Income Grows

THE net income of the Norfolk & Western Railway for November was \$3,788,000, which represents an increase of \$783,000 over the net income of the same month of last year.

Labor Unrest

THE fly in the ointment of progress at present is the threat of strikes heard in various parts of the country. The demands of labor call for higher wages or shorter hours with no reduction in pay. Recognition of the union, and collective bargaining agreements also have a place in the list.

The seamen's strike, which extends from the West Coast to the Eastern seaboard, has delayed shipping with attendant embarrassment to commerce. Now the threat of a complete tie-up of the motor industry looms as a possibility as this goes to press.

Many corporations have advanced wages to a higher point than ever in the past. Working conditions generally have been better, but notwithstanding this, labor has been told by its leaders that it is not being treated fairly, and certain politicians back up these claims.

Seaboard Receivership May End

INDICATIONS point to the probability of the Seaboard Air Line Railway passing out of receivership before long. The Federal Court has called for a conference January 19 of all stockholders, creditors and mortgage holders to discuss the line's reorganization.

The improved condition of the road's earnings, and the ad-

(Continued on page 50)



*This
is also a
"production
line"*

In this day of plant modernization to meet competitive realignments, changes in process, improvements in production . . . look to your electric power, heat and light as one of your "production lines."

Here, in electricity's continually expanding field of industrial usefulness and in its possibilities for wider application toward achieving manufacturing economies, you may find one of your most valued tools.

Communities and customers served by the operating companies in this system have available the engineering staffs of these companies in all matters looking to the most effective use of the service. This co-operative policy has been perfected through long years of mutually beneficial experience.

And all industries, wherever located, are invited to use the facilities of our Industrial Development Department, 20 Pine St., New York City, in exploring the possibilities for location, expansion or other avenues of progress in the growing territory served by the operating companies in the Commonwealth & Southern system.

THE COMMONWEALTH & SOUTHERN CORPORATION

MICHIGAN - OHIO - ILLINOIS - INDIANA - PENNSYLVANIA - GEORGIA - FLORIDA - MISSISSIPPI - SO. CAROLINA - ALABAMA - TENNESSEE

JANUARY NINETEEN THIRTY-SEVEN



Certain-teed

Cordially invites you

to go through the Certain-teed Roofing Plant at Savannah, Ga. See "Millerizing" . . . see the "Sealed Granules" process. Or, for immediate information, call at one of these Certain-teed offices:

SALES OFFICES
 Atlanta, Georgia, 1111 Rhodes Haverly Bldg.
 Baltimore, Maryland, 1309 Lexington Bldg.
 Certain-teed Products Corp., of Va., Ninth
 and Main Sts., Richmond, Va.
 Plant located at Savannah, Georgia

CERTAIN-TEED PRODUCTS CORP.
 General Offices New York, N. Y.

SOUTHERN MADE FOR SOUTHERN TRADE

SERVICISED

ASPHALT PLANKING

for Bridges and Industrial Flooring

Demand Quality Products



Asphalt Planking

Time proven standard asphalt plank is used wherever a tough but resilient wearing surface is required.

Bridge Planking	Industrial Floors
Roof Decks	Loading Platforms
Building and Power Plant construction	
Railroad Viaducts	

A protection for Corkboard Walls of Refrigeration rooms

SERVICISED will give you service on your requirements of asphalt planking of any type, for any use, anywhere, anytime.

Write for special bulletin

SERVICISED PRODUCTS CORPORATION

6051 West 65th Street, Chicago, Ill.

Financial News

(Continued on page 48)

Justment of many difficulties warrant the belief that the decision will be favorable to the discharge of the receivership. L. R. Powell, Jr., and Col. Henry W. Anderson have been receivers of the road.

Salary and Bonus Payments

ACCORDING to the Journal of Commerce, 300 large industrial concerns raised wages or granted bonuses to employees during December. This brought the total since November 1 to 1,000 large companies announcing such moves to the advantage of their employees, "the greatest voluntary wage-raising movement ever witnessed in this country." About 1,700,000 workers benefited from such disbursements in December, which brought the total since November 1 to 4,000,000 workers partaking of these benefits.

\$7,820,000,000 Securities Registered

SECURITIES registered with the Securities Exchange Commission from July, 1933, when the law went into effect, to October, 1936, totaled \$7,820,000,000. Utilities led with nearly \$2,500,000,000; manufacturing companies came next with \$2,300,000,000. Financial and investment companies totaled \$1,878,000,000. In the first ten months of this year, the total was \$4,100,000,000 as contrasted with a total of \$640,000,000 in all of 1934.

Increasing Trade

ECONOMIC conditions throughout the world have shown general improvement. The U. S. Chamber of Commerce calls attention to the evidence of it found in increased combined imports and exports for the first three quarters of 1936, which are at the highest figure in six years.

Our export prices in 1936, according to the statement issued, were 12 per cent above the previous five year average, while import prices were 13 per cent above the average.

Better Prices for Southern Bonds

THE gratifying improvement in the market price for Southern municipal obligations is referred to in an article elsewhere in this issue. Prices have advanced to a point where instead of bringing an interest rate of nearly 4% on an average in 13 leading municipals a year ago, they are now yielding less than an average of 3 per cent.

New Corporate Financing

THE New York Stock Exchange Bulletin called attention recently to the fact that for the first time in five years the volume of new corporate financing has increased enough to bring it into normal relationship with stock market activity. The statement continues:

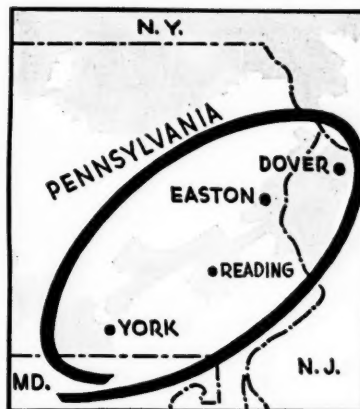
"This is hopeful, and important because the money which corporations receive from the sale of new stock and bonds is largely spent for rebuilding and expanding plant equipment. This accordingly provides employment in the construction and heavy goods industries. This does not mean that new financing has entirely recovered from depression lows.*** Flotations are still less than 40 per cent of what they were in the 1923-25 period. It does mean that industry is moving more rapidly along the road to prosperity, that industrial managements feel the time is ripe for major new construction and improvement projects, and the investing public is showing confidence in the securities of our major enterprises."

Putting 15,000 Men to Work

DURING the five depression years from 1931 through 1935 more than 15,300 persons were put to work at new industrial jobs in Associated communities in Eastern Pennsylvania and Northwestern New Jersey.

These new jobs resulted from a definite industrial program in which the System's Industrial Development Division, community organizations, and local Associated companies cooperated. This program encouraged 226 new concerns to locate in these areas, and assisted in the expansion of 313 already there.

Nearness to large Eastern markets stimulates the textile, iron and steel, machinery, plant equipment, and many other industries in this area. Information about this and other advantages can be secured from Metropolitan Edison Co., in Reading, or from our Industrial Development Division, 150 Broadway, New York.



3,000 Jobs Created Each Depression Year in Associated Areas within Line. Other Shaded Areas Are Part of Total Territory Also Served by Associated System.



ASSOCIATED GAS & ELECTRIC SYSTEM

HAPPY NEW YEAR

**RESOLVED, That 1937 Will Be A CLEAN Year
By Using Clean Fuel--NATURAL GAS**

THE IDEAL FUEL—

CLEAN—

ECONOMICAL—

RELIABLE—

*Consult Your Local Gas Company
or write*

SOUTHERN NATURAL GAS COMPANY

WATTS BUILDING

BIRMINGHAM, ALABAMA

INDUSTRIAL NEWS

Opens Chattanooga Office

The Lincoln Electric Company, Cleveland, Ohio, is opening a new office at 1015 Hanover Street, Chattanooga, Tenn., in charge of Robert Daniels. Mr. Daniels has had extensive experience in sales and the practical aspects of arc welding, having served as a welder for the Chicago Bridge and Iron Works over a period of four years.

Worthington Absorbs Subsidiaries

Following an announcement December 28 of the absorption by Worthington Pump and Machinery Corporation, Harrison, N. J., of its subsidiary, Carbondale Machine Corporation, builders of refrigeration, ice manufacturing and air conditioning equipment, it is now announced, effective January 1, the Worthington Pump and Machinery Corporation has absorbed another subsidiary, the Worthington Company, Incorporated, with offices in El Paso, Tex., Seattle, San Francisco and Los Angeles.

Heads Ohio Valley Section A.I.M.E.

At the recent annual meeting of the American Institute of Mining and Metallurgical Engineers at Columbus, Ohio, J. E. Tobey, manager of the fuel engineering division of Appalachian Coals, Inc., Cincinnati, Ohio, was made chairman of the Ohio Valley Section which embraces membership from parts of Kentucky, Indiana and West Virginia.

Changes in Foxboro Company

The Foxboro Company, Foxboro, Mass., manufacturers of industrial precision instruments, announces the appointment of Roger W. Allen in the Atlanta, Ga. office of the company, and the addition of T. R. Smiley to the personnel of the repair shop of the San Francisco office. Walter N. Stancati has joined the staff of the Pittsburgh office as a sales engineer.

Cemented Carbide

In an outline of activities in the cemented carbide field in 1938, Carboloy Company, Inc., of Detroit, Mich., licensors of all carbide manufacturers in this country, presents a resume of activities in the field at large as well as general developments effected by Carboloy Company itself. Reduction in prices, a new brazing technique and important developments in the more rapid, economical grinding of Carboloy tools were reported in 1938.

Ruberoid Acquires the Lang Company

Properties of The Lang Company, Gloucester, N. J., makers of dry felts used in the production of roofing and building products, have been acquired by The Ruberoid Company, New York City, according to Herbert Abraham, president of the latter. With an annual capacity of 45,000 tons, the Lang plant will be operated as the Lang Mills, Division of the Ruberoid Company, and in conjunction with Ruberoid plants at Joliet, Ill., and Erie, Pa., will increase the felt production capacity of Ruberoid to approximately 100,000 tons.

Trackless Trolleys For Shreveport

Charles J. Hardy, president of The J. G. Brill Company, Philadelphia, Pa., announces receipt of an order from the Shreveport Railways Company, Shreveport, La., for twelve 40-passenger single motor trackless trolleys, representing the fourth repeat order from that company.

Joins Wellman Engineering Co.

John C. Hopkins has been elected vice-president and sales manager of The Wellman Engineering Company, Cleveland, Ohio. He has served such companies as Penn Iron and Coal Company, Buffalo Union Furnace Company, Republic Iron and Steel Company, Massillon Iron and Steel Company, and resigned as district sales manager in the Cleveland office of General Refractories Company to join The Wellman Engineering Company.

Collins Lumber Company to Atlanta

The Collins Lumber Company, wholesale hardwood and pine lumber dealers have moved its office from Charlotte, N. C., where it has been in the lumber business for the past 25 years, to 1111 Citizens and Southern Bank Building, Atlanta, Ga. The company is now representing the Holt Hardwood Company, of Oconto, Wis., manufacturers of Holt MFMA maple flooring, and Nickey Brothers, Inc., Memphis, Tenn., makers of None Better oak flooring and veneer.

Pittsburgh Steel Appointments

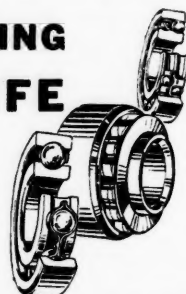
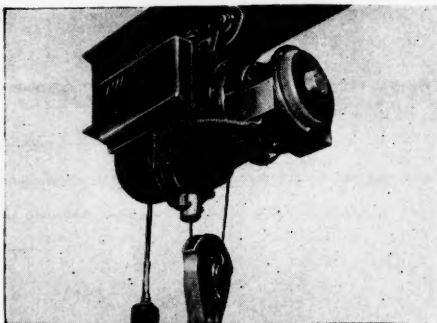
The appointment of W. G. Hume as Manager of Sales of Wire Products of the Pittsburgh Steel Company, Pittsburgh, Pa., has been announced by Ed. W. Smith, General Manager of Sales. William Steytler has been transferred to the Philadelphia office of Pittsburgh Steel Company as District Sales Manager, and C. L. Wade has been transferred from the Philadelphia office to Pittsburgh.

New York Life Officials Promoted

Thomas A. Buckner has been made Chairman of the Board of Directors of the New York Life Insurance Company, New York City, and has been succeeded as president by Alfred L. Aiken. Vice President Walker Buckner has been appointed Executive Vice President.

(Continued on page 54)

Built with ANTI-FRICTION BEARINGS for SMOOTHER HANDLING — LONGER LIFE



In addition to ball bearing-equipped motors, all shafts, etc., in the P&H hoist mechanism ride on smooth-running ball and roller bearings—one of the big reasons for dependable operation and longer life.

A HOIST FOR EVERY PLANT AND PURPOSE

● No matter what your requirements may be, you'll find the right hoist in the P&H line to fit them. There's a complete range of capacities from 1/8 to 15 tons, with all types of mountings, operating speeds, lifting heights, etc. A P&H hoist engineer will gladly study your problems and recommend the size and type best suited.

YOUR COPY OF THIS NEW BULLETIN

A post card will bring your copy of Bulletin H-5 which covers all sorts of practical hoist applications.

Write for it now.

HARNISCHFEGER CORPORATION

Established 1884

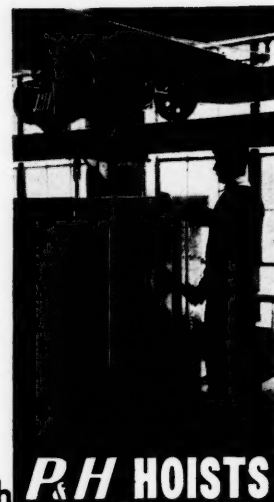
4427 W. National Ave.

Milwaukee, Wis.

Handle it "Off the Floor" with

HARNISCHFEGER

HOISTS • ELECTRIC CRANES • MOTORS • ARC WELDERS • EXCAVATORS



MORE PERMANENT PROTECTION

Many years' longer life is assured by the new Continental Fence fabric of KONIK Steel—rust-resistant clear through. . . . No other fence is made of this steel—and none other has line posts and fittings of comparable strength. . . . Erected quickly and economically by expert crews. . . . Valuable new manual "PLANNED PROTECTION", free on request. Write today.



CONTINENTAL STEEL CORP.
Kokomo, Indiana
Plants at Kokomo, Indianapolis, Canton

CONTINENTAL Chain Link FENCE

Water Purification Plants

Any Type—Any Purpose—Any Capacity

Dry Chemical Feed Machines
Swimming Pool Filters

E. W. BACHARACH & CO.

Rialto Bldg.

Kansas City, Mo.

Filtration and Pumping Equipment For Water Works and Swimming Pools Sales and Installation

BURFORD, HALL AND SMITH

140 Edgewood Avenue, N. E.,
Atlanta, Georgia

FILTERS

Water Filters for Municipalities, Textile Finishing Establishments, Rayon Manufacturing Plants, Swimming Pools, Raw Water Ice Plants, Laundries, etc.

ROBERTS FILTER MANUFACTURING COMPANY

604 Columbia Avenue

Darby, Pennsylvania

NORFOLK TANK CORPORATION

NORFOLK, VA.

Baltimore Rep: Allan U. Bevier, Inc., 322 S. Fremont Ave.

STEEL PLATE FABRICATORS

TANKS:

Pressure Water
Truck Process
Trailer Storage

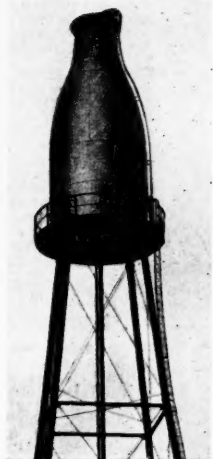
Standpipes

Bins Hoppers
Stacks
Pipe Coils

Angle Rings

Dredge Pipe
Asphalt Equipment
Industrial Specialties

Tank Builders For Over 80 Years!



A 20,000 Gallon Milk Bottle!

This water tank, designed, constructed and erected by COLE, not only provides fire protection but outstanding publicity. We have made tanks in other odd shapes—bottles, etc. Does *YOUR* product lend itself to such unusual advertising?

Cole Tanks

Tanks of any kind and size for any purpose designed and constructed by us — storage, water, fuel oil, acid, chemicals, etc. Let our Engineering Department study your needs.

OTHER COLE PRODUCTS

Towers
Standpipes
Smokestacks

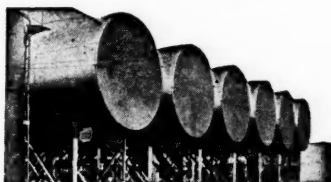
Kettles
Vats
Air Receivers

Digestors
Storage Bins
Fabricated Framework

Write for "Tank Talk"—No. 19-D

R.D.COLE MANUFACTURING CO.
NEWNAN EST. 1854 GEORGIA

SOUTHLAND PRODUCTS —WELDED OR RIVETED—



We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

WELDED
OR RIVETED
CONSTRUCTION

This applies to field as well as shop built equipment.

Write us for information and quotations.

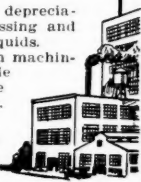
CHATTANOOGA BOILER & TANK CO.
CHATTANOOGA, TENN.

DAVIS CYPRESS TANKS

Some especially desirable attributes must surround Davis Tanks—when you realize that leading manufacturers and railroads of the South have bought them repeatedly for 46 years. In truth, there are two reasons:

1. Cypress is unequalled for durability, low depreciation and varied usefulness in storage, processing and handling chemicals and other liquids.
2. Davis tanks, built by modern machinery and skilled men, can be made to fit any factory need, in any size and shape. Catalog on request.

G. M. DAVIS & SON
P. O. Box 5, Palatka, Florida



INDUSTRIAL NEWS

(Continued from page 52)

Harnischfeger Plant Appointments

Harnischfeger Corporation, Milwaukee, Wis., announces the appointment of Henry H. Erkelenz as Manager of Engineering and Works, and the appointment of Herman Menck as Works Manager, succeeding Mr. Erkelenz.

Vice President of Chain Belt

The Board of Directors of Chain Belt Company, Milwaukee, Wis., manufacturers of REX chain, conveyors, construction machinery and sanitation equipment, elected John T. Brown, former Works Manager, as a vice president of the company.

ARMCO Ingot Iron Distributor

The Vance Iron and Steel Company, Chattanooga, Tenn., was recently appointed an ARMCO Ingot Iron distributor, according to announcement by The American Rolling Mill Company, of Middletown, Ohio, producers of ARMCO products.

American Mutual Increases Business

Declaring that the company's business in Indiana was increasing at an encouraging pace and that premiums were 65 per cent larger for the first ten months of 1936 than for the similar period in 1935, Robert M. Allen, assistant to President Charles E. Hodges, Jr., of American Mutual Liability Insurance Company, Boston, Mass., told the company's Indiana Advisory Board at its meeting at the Columbia Club, Indianapolis, that "aggressive advertising of mutual insurance is considered a public duty today by mutual company executives." Attending the meeting were: George W. Ansted, Treasurer, Rex Manufacturing Company, Connersville; Marshall D. Lupton, Vice President, Beveridge Paper Company, Indianapolis; Ginnie L. Reeves, President, Reeves Pulley Company, Columbus; C. K. Robinson, Vice President, Swayne, Robinson Company, Richmond; Temple Williams, Secretary-Treasurer, Dodge Manufacturing Corporation, Mishawaka; Charles F. Zwick, President, Indianapolis Glove Company, Indianapolis, and Russell Fuller, Branch Production Manager. A dividend of 20 per cent, payable on all policies expiring during the period February 1 to February 28, 1937, has been declared by the company, bringing its total to 580 consecutive dividends of 20 per cent or more.

EDWARDS LOXSEAM



*Makes Every
Roofing
Dollar
worth
100 Cents
again!*

Unlike ordinary roofing, Edwards LOXSEAM sheets interlock with a water-tight seal, from ridge to gutter. The nails along the side seams are covered and protected. Moisture can't syphon through, even on a roof with little as 1/6 pitch. They lay in half the time and last twice as long. Protect from fire and lightning as long as the building stands.

Let us send you *free* full width samples and prices. Write for Loxseam Circular.

The Edwards Manufacturing Co.
411-431 Culvert St. Cincinnati, Ohio

Changes Name and Reduces Capital

Stockholders of Freeport Texas Company, leading sulphur producer, voted to change the name to Freeport Sulphur Company, which is the name of its principal subsidiary. This subsidiary has been liquidated and the parent company, operating under its new name, is engaged directly in producing and marketing sulphur. At the same time, stockholders voted to reduce the authorized capital stock by 12,000 shares of preferred stock, which under conversion privileges, have been converted into common stock, and to reduce the capital of the company by \$846,000, representing the difference between the par value of the preferred stock converted and the par value of the common stock issued upon conversion. These changes, according to Langbourne M. Williams, Jr., president, are in line with current trends toward simplification of corporate structures with a view to tax and other savings. Principal offices of the Freeport Sulphur Company, are at 122 E. 42nd street, New York.

B. & O. Agricultural Department Expands

The Agricultural Department of the Baltimore and Ohio Railroad Company, Baltimore, Md., which was formerly a section of the Commercial Development Department, has been expanded and given independent status. O. K. Quivey, who has served as general agricultural agent, has been named Manager of the Agricultural Department.

TRADE LITERATURE

WHITING PULVERIZERS—

Bulletin No. 15—illustrating and describing Whiting pulverizers for fine grinding. Whiting Corporation, Harvey, Ill.

COOPER-BESSEMER GAS ENGINES—

Bulletin — illustrating and describing Cooper-Bessemer Type GN gas engines in 3, 4, 6 and 8 cylinders, rated at 50 to 60 H. P. per cylinder, may be converted to a Diesel.

The Cooper-Bessemer Corporation, Mt. Vernon, Ohio.

ROOFING SPECIFICATIONS—

Booklet—of standard specifications, written in blank, ready to be incorporated with architectural or engineering master specifications without alteration.

Koppers Company, Tar and Chemical Division, Pittsburgh, Pa.

COFFING EQUIPMENT—

Catalogue No. 29—describing and illustrating the application of Coffing Equipment, including Ratchet Lever Hoists, Spur Gear Gravity Hoists, Electric Hoists, Load Binders, Etc.

Coffing Hoist Company, Danville, Ill.

(Continued on page 66)

There are— Opportunities in **FLORIDA** for investment—

To learn of the many and varied opportunities for investment one should visit Florida and make a personal survey of the different sections of the State—

For undeveloped farm and grove lands, industrial sites and beach property on the East Coast of Florida—consult—

Model Land Company

Flagler System

St. Augustine—Florida



A bird's-eye view of the **BALTIMORE ANNAPOLIS WASHINGTON** area

will disclose the fact that the only large tract now available for industrial-residential sites is at GLENBURNIE.

Here are 340 acres in a most beautiful setting of sturdy oaks on gentle rolling hills, fifteen minutes from Baltimore and within easy reach of Annapolis and Washington—an area that is constantly in the international limelight.

Large manufacturing plants shipping their products to eastern seaboard cities and foreign countries can appropriately locate a branch plant in this industrial-residential area and enjoy the unusual combination of superior manufacturing advantages, and the educational and cultural opportunities for their employees.

The Glenburnie industrial sites are particularly appropriate for airplane parts plants: propellers, instruments; textile fabricating plants, business machines and radio assembling plants, printing and lithographing to take care of the needs of Washington, Baltimore and Annapolis and for similar manufacture.

Use Wire or Air Mail for additional information about our special offer for a correct type of industry suitable for this unusual location.

GLENBURNIE DEVELOPMENT COMPANY

1409 L St., N. W., Washington, D. C.

GEORGE B. FURMAN, President

CREOSOTED TIES, PILING, POLES, POSTS, CROSS ARMS, and LUMBER

WOLMANIZED LUMBER—

Decay and Termite Proof—Can Be Painted

Docks for Ocean Vessels

American Creosote Works, Inc.
New Orleans, La.

Atlantic Creosoting Co., Inc.
Norfolk, Virginia

Plants at: New Orleans; Winnfield, La.; Louisville, Miss.
Savannah, Ga.; Jackson, Tenn., and Norfolk, Va.

HUTTON & BOURBONNAIS CO.

HICKORY, N. C.

Industrial Crating, Box Shooks, Rough and Dressed Lumber, Oak Flooring, also Pinus Strobus Pattern Lumber, White Pine, N. C. Pine, Oak, Poplar and Chestnut.

INQUIRIES SOLICITED.

FOR THEIR GREATER SERVICE USE

SHIMER SUCCESS PLANING MACHINE KNIVES AND BITS,

Surfacing Knives and many Knives of smaller proportions for special duty in wood cutting. It will be to your advantage to look into this feature of our service. Our prices, too, are very attractive if you take in consideration their extra wear.

Samuel J. Shimer & Sons, Inc.
MILTON, PA.

DEFEAT DRY ROT AND TERMITES

by pressure-treating your lumber and timber with ZMA or Creosote. Eppinger & Russell Co.'s preserving process increases the life of woods from 8 to 20 times. For more than half a century, the outstanding utilities and industrial plants have depended upon Eppinger & Russell Co. for long-life, low-maintenance lumber that is immune to decay, dry rot and termite attack.

PRESSURE-TREATING PLANTS AT:
Jacksonville, Fla.
and
Long Island City, N. Y.

WOOD PRESERVERS SINCE 1878
EPPINGER & RUSSELL Co
84 Eighth Ave., NEW YORK CITY

Southern Financing for Southern Industry

(Continued from page 22)

local banks. The banks of Baltimore, Richmond, Winston-Salem, Charlotte, Atlanta, Birmingham, New Orleans, Memphis, Dallas and St. Louis, and other large Southern centers are actively competing for this business that heretofore has been going elsewhere. These banks not only have the resources but they are close by and are familiar with the problems of business and industry throughout the Southern territory. Furthermore, they have a community pride and interest in seeing Southern business grow and prosper and for the same reason they are likely to stand by Southern business men in times of financial stress and go the limit in protecting business concerns in this section during periods of depression.

One must remember, however, that the financing of industry is of two separate and distinct types, only one of which is the proper function of commercial banking. Failure to make this distinction often brings criticism upon bankers for an apparent lack of cooperation in promoting and financing industrial enterprises.

INDUSTRY requires both capital and seasonal financing, one is long term, the other is temporary.

Industry needs capital funds with which to erect or purchase buildings and to install machinery and equipment of all kinds. Money used for this purpose becomes a permanent investment in the business and is usually supplied by investors who receive in return a share in the business, evidenced by stocks or bonds. Capital investors look to the profits of the business as their source of income or repayment. The money they put into the business is subjected to all the hazards and risks which any concern must take in the ordinary course of business. The principal sources of capital funds are private investors, mortgage or investment bankers and sales of stocks and bonds to the general investing public. Since the deposits of a commercial bank are payable on demand and a high degree of liquidity is always essential, it is obvious that capital financing is not a proper use of a commercial bank's deposits.

But, in addition to capital, business needs seasonal funds to purchase raw materials and to operate during peak periods. The banks of the South are amply supplied with funds and facilities to take care of these seasonal needs of industry.

SOUTHERN industrial expansion comes from two sources:

plants moving South from other sections, and the growth of industries already established here.

Those moving in are usually adequately capitalized. Sometimes they seek limited amounts of local capital as a means of assuring local interest and support. This type of industrial growth is always welcome.

But if such industries prove to be profitable the bulk of the profits goes elsewhere. If more of the benefits arising from Southern industrial expansion are to accrue to Southern people, we shall have to invest more heavily ourselves in our own industries. As the financial progress of the South continues, the amount of funds available for capital investment will increase and more of these funds should find their way into Southern enterprises. More of the South's industrial opportunities should be seized upon by our own investors and capitalists and the initiative and enterprise should not be left so largely to outside capital.

WHILE commercial bankers cannot use depositors' funds for capital purposes, nevertheless, they can be of distinct assistance in the capital financing of Southern industry. Bankers are usually familiar with local sources of investment funds, and they are in position to judge the various factors that determine whether or not a proposed new industry or the expansion of an existing industry is on a sound basis and deserves the support of the investing public.

No community is helped by the establishment of a fair-weather industry of a highly speculative nature. Bankers can render invaluable service in helping communities to seek sound enterprises and in keeping out the undesirable types. Bankers can also take an active interest in furthering sound tax legislation and in preventing the penalizing of industry through unfair tax burdens.

Furthermore, the bankers of the South can materially help Southern industrial progress if they are personally sold on the opportunities and possibilities of this great section. They should exhibit a keen interest in local projects, at the same time avoiding the type of local or State pride that seeks to build at the expense of a neighbor, or that takes no interest in any development beyond the limits of a particular city or community. Southern industrial progress should not depend solely upon the competition of cities vying with each other for some new plant, but should be supported by a broad cooperative movement that puts the interests of the whole South first and that of individual cities second.

The time is rapidly approaching when the financial advantages offered industry in the South will equal those to be found in any other section of the country.

\$60,000,000 For New Kraft Mills

(Continued from page 27)

President Paepcke. In its northern paper mills, Container Corporation is now using a large tonnage of imported Scandinavian pulp for which Southern-produced pulp can be substituted. The Fernandina plant will insure a supply of pulpboard at the lowest possible cost.

Record Expansion in the South

No other industry in recent years has been so active in enlarging production facilities as that of kraft paper and linerboard. It has turned to the South where vast pine resources and chemicals are available for the advantageous making of its product. The manufacture of kraft board has been an important industry in the South for a decade and this section has become the dominant producer, but this new movement in plant expansion has been one of the most rapid in the industrial history of the South. The Mobile Paper Mill Co., Crichton, Ala., the first commercial groundwood pulp mill using Southern pine, recently furnished the first match board from the South.

With the successful manufacture of newsprint from Southern pine assured, it is only a question of time before there will be established other mills for the manufacture of white paper in the South which will help to make the United States independent of foreign sources of supply. The amount spent abroad by this country for pulp and paper averages more than \$170,000,000 a year.

10 Huge Paper Mills in Year

In a little more than a year 10 huge kraft pulp mills have been established in the South with a total investment of \$60,000,000. Their total capacity is 750,000 tons a year, which will almost double the present capacity of 1,000,000 tons. Work was started on seven of these mills in recent months. The first of the new series of mills was completed by the Union Bag & Paper Co., at Savannah. Before the mill started operation, work was begun on a unit to double the plant's capacity, and now a third unit has been let to contract. The Champion Paper & Fibre Co., which has had a large paper mill at Canton, N. C., for many years, is completing a new plant at Houston, Tex., and is considering the addition of a second unit. In December contracts were let for the Brunswick, Ga., Fernandina, Fla., Franklin, Va., and Plymouth, N. C., kraft mills. The impressive record of these new kraft pulp, paper and board mills proposed and started in the South in the past 12 months is cited in the table at the beginning of this article.

BELMONT IRON WORKS

PHILADELPHIA NEW YORK EDDYSTON

Southern Sales Offices, Charlotte, N. C.
Engineers . Contractors . Exporters

**STRUCTURAL STEEL
BUILDINGS AND BRIDGES
RIVETED-ARC WELDED**

**BELMONT INTERLOCKING
CHANNEL FLOOR**

Write for Catalogue

Main Office—Philadelphia, Pa.
New York Office—44 Whitehall St.

STRUCTURAL STEEL for BUILDINGS and BRIDGES

Capacity 1000 Tons per Month. 3000 Tons in Stock

Carolina Steel and Iron Company
The Largest Steel Fabricators in the Carolinas
Greensboro North Carolina
S. C. Rep., Edward McCrady, 307 Allen Bldg., Greenville, S. C.

AUSTIN BROTHERS BRIDGE CO.

Structural Steel and Ornamental Iron
Bridges, Reinforcing and Guard Fence

ATLANTA, GEORGIA
Oakland City Station

Bristol Steel & Iron Works, Inc.

STRUCTURAL STEEL

For Bridges, Buildings and All Industrial Purposes

Steel Plate and Miscellaneous Iron Work
Complete Stock Shapes, Plates, Sheets and Bars for
Immediate Shipment

BRISTOL, VIRGINIA-TENNESSEE
"SAVE WITH STEEL"

CONVERSE BRIDGE & STEEL CO.

Chattanooga, Tennessee

*Structural Steel for all Industrial Structures,
Buildings and Bridges.*

LARGE STOCK FOR IMMEDIATE SHIPMENT



**MY BOSS SAYS
IT'S GOOD BUSINESS
TO USE THE BEST**

Give your customers the long-lasting trouble-free service of Lyonore Metal. Chromium-Nickel-Iron Alloy and they'll always recommend you to their friends. Get the facts about this remarkable alloy. Write today.



LYON, CONKLIN & CO., INC. BALTIMORE, MD.



Salt treated sub-flooring laid on Creosoted stringers and nailing strips, each treated by our Pressure Process.

The Permanence of TREATED WOOD in Building Construction

Eliminate the need for expensive Replacements and Repairs by the use of Structural Lumber preservatively treated by our Pressure Processes with Standard, approved chemicals. Treated Lumber has many times the life of Untreated Lumber and will give a lifetime of satisfaction with low maintenance costs.

Detailed Information, Prices and, if necessary, the services of one of our Engineers may be had without cost to you, by writing our territory Sales Office or communicating direct with

THE WOOD PRESERVING CORPORATION

Koppers Building

Pittsburgh, Pa.

AYER & LORD DIVISION

Affiliate

CENTURY DIVISION

NATIONAL LUMBER & CREOSOTING CO.

SALES OFFICES

Baltimore, Md. . . Boston, Mass. . . Charleston, S. C. . . Chicago, Ill.
Columbia Park, O. . . Denver, Colorado . . . Houston, Texas . . . Kansas
City, Mo. . . Marietta, O. . . Memphis, Tenn. . . Montgomery, Ala.
New York, N. Y. . . Newport, Del. . . Philadelphia, Pa. . . Pittsburgh, Pa.
Reed City, Mich. . . St. Louis, Mo. . . Superior, Wis. . . Texarkana, Ark.-Tex.

The Outlook Is Bright For the Southern Pine Industry

(Continued from page 42)

and expensive money facilities, all of which will gradually diminish with the resumption of prosperity and increase in general employment.

Business activity in seven important industrial lines is now at rates above normal. These are boot and shoe, electric power, pig iron, and steel ingot production, and cotton, rayon and wool consumption.

Other favorable indices, insofar as the outlook for lumber is concerned, are the increasing prosperity of the railroads and the expansion in furniture production. Household furniture plant operations are at 80% of normal, compared to 60% a year ago. The railroads have placed more orders for new freight cars this year than in any similar period since 1929. Farm income in the United States for 1936 is estimated at \$7,850,000,000, and the largest since 1930, falling 7% under 1930. This should stimulate buying in rural communities. Evidence of farm spending is found in the index of rural sales of general merchandise, which for the 10 months of 1936 have averaged 14% above 1935 and 4% above the level for 1929 to 1931.

One of the outstanding activities of the Southern Pine Association during 1936 has been its efforts, in cooperation with groups of responsible retail lumber dealers in various communities, to protect home builders and those identified with that industry against "jerry-building"—the use of shoddy, improper and unsatis-

factory materials and methods of construction in home building. This work has been carried on in educational campaigns in specific communities, emphasizing the importance of using correct principles of construction and properly manufactured, graded and seasoned lumber in home building. In this activity the SPA and retail dealers have had wholehearted support from all branches of the building industry and FHA officials. Under the co-operative plan a complete free building service is provided in the community, including the services of a lumber and construction expert to advise on proper building methods, grades of lumber to use for different purposes in the house, and also to check the lumber used to assure it is accurately manufactured and graded, and is seasoned to the required moisture content.

Southern Cypress Mills Active

(Continued from page 42)

to successfully kiln dry cypress green from the saw, the amount of cypress now carried in stock has been somewhat reduced.

While several small mills which produce yellow pine and cypress, have been built during 1936, only one large cypress saw mill started operation. The Louisiana Cypress Lumber Company of Pontchatoula, La., started their new operation during July, and with many hundreds of millions of feet of the finest cypress timber in the South, they will have a long life ahead of them. With a

full equipment of sawmills, planing mills, and dry kilns they will be a welcome addition to the group of exclusive cypress producers who saw only the best of cypress which is marketed under the trade name of Tidewater Red Cypress.

With a resumption of home building general all over the country the demand for cypress and other species of lumber from the entire South during the year 1937 should go a long way towards wiping out the sad memories of the depression years.

85 Per Cent Increase in Oak Flooring Shipments

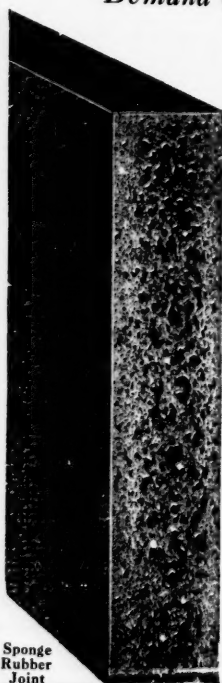
Industry Operating 40 Per Cent of Capacity

THE National Oak Flooring Association, representing 76 per cent of the industry from Pennsylvania south and southwest to Texas, reports an increase of 85 per cent in shipments in 1936. Despite this increase, the industry is operating at about 40 per cent capacity. However, the outlook is encouraging, based upon the expectation of a gain in the volume of new residential work extending over the next five years.

There has been some rehabilitation of old equipment and new units added, but no new plants built in the light of the over-capacity existing. Ralph E. Hill, secretary and treasurer of the Association, states that the industry is optimistic but that it will not have a profitable situation until the volume of sales is at least double that of 1936.

SERVICISED EXPANSION JOINTS

Demand Quality Products



Sponge Rubber Joint

Specify nothing but the best in Expansion Joints. Engineers engaged in public works construction know that prices cannot be cut without sacrificing quality.

Demand **SERVICISED QUALITY PRODUCTS** for your highway expansion joints. They are the very best that modern manufacturing skill can produce. Nothing of their quality has been sacrificed for the sake of price.

Sponge Rubber Joints
Asphalt Joints
Felt Sided Asphalt Joints
Fibre Joints
Cork Rubber Joints

Send our Engineering Department details of your special requirements or problems. If premoulded bituminous materials can be used, **SERVICISED** can make it.

SERVICISED PRODUCTS CORPORATION

6051 West 65th St., Chicago, Ill.



Btu

PROBLEMS SOLVED!

If you have temperature control problems, you should have a copy of the Ruberoid-Watson Insulating Products Catalog. It is mailed free to factory engineers.

Within the 36 pages you will find complete factual data and tables covering asbestos pipe coverings for low, medium and high temperatures, and such insulation specialties as 85% Magnesia, Rock Wool, Asbestos Millboard, Asbestos Paper, Corrugated Asbestos Paper, Fireproof Insulating Board, and Asbestos Cements.

Address Dept. M.R.-1 for your copy today.

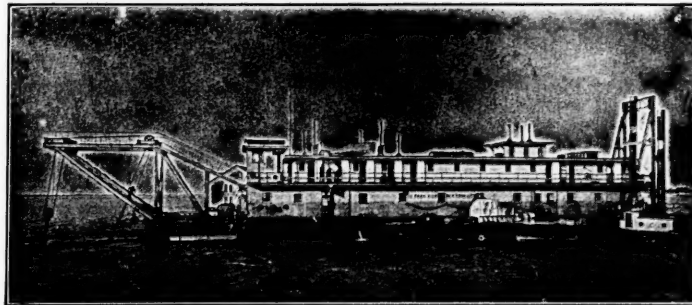
RU-BER-OID

ROOFING AND BUILDING PRODUCTS

THE RUBEROID CO., Executive Offices, 500 Fifth Avenue, New York

DREDGING

FILLING, LAND RECLAMATION, CANALS, PORT WORKS
RIVER AND HARBOR IMPROVEMENTS—DEEP WATERWAYS AND SHIP CHANNELS



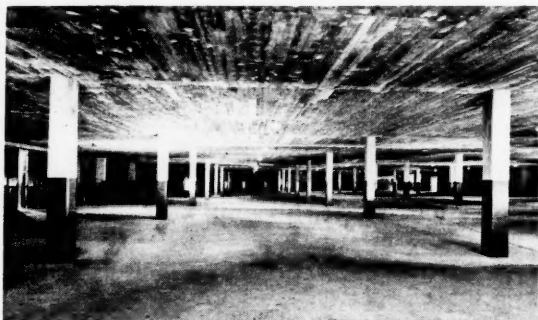
We are especially equipped to execute all kinds of dredging,
reclamation and port works in Southern waters.
Correspondence invited from corporate
and private interests everywhere.

Contractors to the Federal Government

ATLANTIC GULF AND PACIFIC CO.

NEW YORK: 15 Park Row

HOUSTON, TEXAS: Scanlan Building



**ALL FLAT CEILINGS
FOR INDUSTRIAL BUILDINGS
SAVE SPACE--SAVE MONEY**

**INVESTIGATE THIS NEW TYPE
OF FLOOR CONSTRUCTION BEFORE
YOU BUILD AGAIN**

FOR INFORMATION ADDRESS

SMOOTH CEILINGS SYSTEM-PTD.
802 MET LIFE BLDG., MINNEAPOLIS, MINN.



OLIVER IRON AND STEEL CO.
PITTSBURGH, PA.
C. W. G. Used with Corrugated Roofing

**SPECIFY
CORRUGATED WIRE GLASS
FOR SKYLIGHTING**

They diffuse light with a minimum of shadows. They are self cleaning and can be used on a roof of any material, and supply daylight in manufacturing and industrial plants—an important factor in all modern production.

Also used with excellent results on sidewalls, marquees, canopies and wherever daylight is needed.

Our Engineering Service Department can aid you on your skylighting problems. Write or wire.

PENNSYLVANIA WIRE GLASS CO.
1612 MARKET STREET
PHILADELPHIA, PENNSYLVANIA

The Rising Trend of Southern Municipal Bonds

(Continued from page 29)

tions, whereas gradual liquidation of outstanding debt has continued.

Other indices of recovery, such as building, are outstripping other sections. New taxable values are being created in the vast industrial expansion which is putting the South on the ascendancy. The textile industry, in its flourishing prosperity during 1936, is helping to swell the coffers of many a town and county in Virginia, the Carolinas, Georgia, Tennessee and other states. But this recovery affecting the South is not just the normal recovery of the nation — rather, it is the opening up of new country, a virgin development, a funnel of new capital with the South on the receiving end.

With capital flowing in, with higher farm prices, and improved tax collections, 1937 is being ushered in to find the South in a strategic position to take advantage of prevailing easy money rates to attain a wider market for its obligations. Nation-wide conditions and especially conditions in the South, are ripe for Southern municipals to experience during 1937 an even more vigorous demand than existed last year.

Two factors add strong support to this statement. First, institutional accounts will seek more eagerly the bonds of the Southern states, if interest rates go lower, because of the larger returns obtainable in the South. Second, and most important, investors will be drawn to these states on the theory that the rapidly increasing security and the rising credit status of

Southern municipalities, resulting from the upward cycle of tax paying ability in this section as a whole, will very probably act as a strong resistant to the inevitable price depreciation of bonds when and if interest rates begin to tighten.

South's Industrial Outlook

MANUFACTURING

plants in the South produced a greater volume in the year 1936 than ever before, according to figures compiled by the Southern States Industrial Council, Nashville, Tenn. While the dollar value of products manufactured is approximately 6.4 per cent less than in 1929 in terms of volume, the Council states manufacturing production is actually 7 per cent higher than in 1929.

The report showed that development has been noted in practically every line of manufacturing, the extent of which has given impetus to production of equipment and machinery manufacturers in other parts of the country.

Also greater than ever before in the South's history was the number of workers employed and the wages paid by Southern manufacturing.

In December, the number of wage earners employed was 1,551,705 in 14 Southern states. They received as compensation \$1,238,000,000.

Despite the fact that new workers are being added, pay envelopes each week are larger than they have been. This is due to the fact that wages have increased more proportionately than the value of manufactured products, despite the large number of unemployed

Tung Oil to Feature Florida Chemurgic Conference

A CHEMURGIC conference is to be held in February at Gainesville, Fla., under the auspices of the University of Florida and the State Chamber of Commerce.

The tung oil industry is to be a feature of the meeting. H. W. Bennett, Gainesville, president of China-Tung Oil Inc., owner of a 2,000 acre tung grove, who plans to develop under mass production methods 10,000 acres, referring to the importance of the conference to Florida and the South, reports that tung oil production this year will be about 2,000,000 pounds, but by next year 10,000,000 pounds are expected. He asserts the American market for tung oil could take 400,000,000 pounds. Most of our tung oil comes from China.

The increasing tung tree plantings, the three modern tung oil mills established, and one now building at Picayune, Miss., which is to be the largest in the world, indicate the rapid growth of the industry in the South. Tung groves are scattered through the states of Florida, Georgia, Alabama, Mississippi, Louisiana, and Texas, definitely assuring domestic production that is to increase in the coming years.

H. E. Barnard, director of research, Farm Chemurgic Council, Dearborn, Mich., believes that the tung groves of the South, before many years, will bring much wealth and provide labor for thousands.

SAND-GRAVEL-BRICK FILTER GRAVEL

Washed Sand and Gravel for Concrete
Roads and Buildings
Filter Gravel, all sizes—Building Bricks

FRIEND & CO., INC. River St., Petersburg, Va.

SEWER PIPE
CULVERT PIPE
DRAIN TILE
WALL COPING
METER BOXES



FLUE LINING
SEPTIC TANKS
FIRE BRICK
GRATE BACKS
FIRE CLAY

We solicit your inquiries

LEE CLAY PRODUCTS COMPANY
CLEARFIELD, Rowan County KENTUCKY

CANNING MACHINERY For Fruits, Vegetables, Seafoods, etc.

WE ARE MANUFACTURERS

— WRITE FOR CATALOG —

A. K. ROBINS & COMPANY, Inc.
BALTIMORE, MD.



WILLIAMS
"ARCH-GIRDER"
TRAILERS

EASIER TO LOAD
TO HAUL
AND TO STOP!

THE WELLMAN ENGINEERING CO.
7003 CENTRAL AVE., CLEVELAND - OHIO

STEEL PLATE CONSTRUCTION TANKS STACKS DREDGE PIPE

Acid Tanks	Digestors	Jacketed Tanks	Settling Tanks
Breechings	Driers	Molasses Tanks	Standpipes
Condensers	Filters	Oil Storage Tanks	Stillts
Coolers	Gasoline Tanks	Pressure Tanks	Vacuum Tanks

LANCASTER IRON WORKS
LANCASTER, PA.

Northern Hard Rock Maple Flooring

BLOCK

Holt Hardwood Co., Oconto, Wis.

STRIP

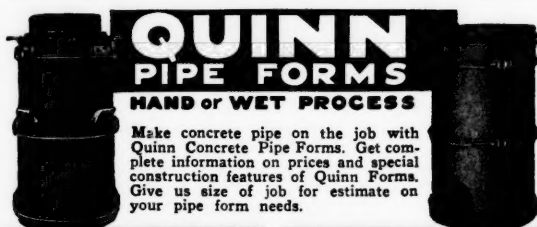
MEMBERS OF MAPLE FLOORING MANUFACTURERS ASSOCIATION

GLAMORGAN

PIPE & FOUNDRY CO.

LYNCHBURG, VA.

Manufacturers of
Cast Iron Pipe and Fittings
For Water and Gas Service



QUINN PIPE FORMS

HAND or WET PROCESS

Make concrete pipe on the job with Quinn Concrete Pipe Forms. Get complete information on prices and special construction features of Quinn Forms. Give us size of job for estimate on your pipe form needs.

HEAVY DUTY

Built for more years of service—sizes for any diameter pipe from 12 to 84 inches—any length—tongue and groove or bell end.

Also manufacturers of concrete pipe machines for making pipe by machine process.

MEDIUM DUTY

Makes same sizes pipe as "Heavy Duty" but built to meet demand for lower cost equipment to produce uniform quality in smaller amounts.

QUINN WIRE & IRON WORKS 1605 12 St. Boone, Iowa

FOR ATTRACTIVE BUILDINGS AND MAUSOLEUMS USE BLUE "OGLESBY" GRANITE

It Assures Greater Permanence—Unusual Beauty
Reasonable Cost

FOR BUILDINGS
CUT-ASHLAR RUBBLE

FOR MONUMENTS—
MARKERS—MAUSOLEUMS

Quarried by—

OGLESBY GRANITE QUARRIERS, ELBERTON, GA.

"Preferred for Better Memorials since 1893."

GRANITE

WHITE MOUNT AIRY

THE NORTH CAROLINA GRANITE CORP'N.
Mount Airy, N. C.

VEN-ITE

THE MONARCH OF FLOORS



We contract to install guaranteed cement floors anywhere in the Country.

Either your job specifications, or a Ven-ite specification; figured optional with yourselves.

Ven-ite Floors embody several types as follows:

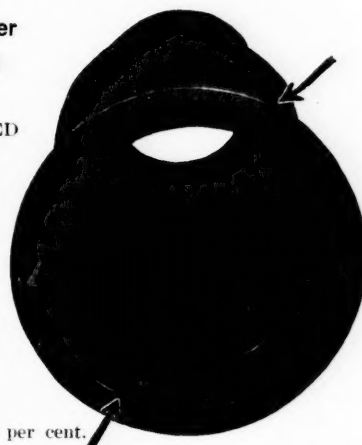
VEN-ITE HEAVY DUTY INDUSTRIAL FLOORS
VEN-ITE CEMENT FLOORS FOR PUBLIC BUILDINGS
VEN-ITE COLORED CEMENT FLOORS
VEN-ITE SURFACED CEMENT FLOORS (TERRAZZO)
VEN-ITE ACID PROOF FLOORS
VEN-ITE BLACK TOP FLOORS
VEN-ITE GRANOLITHIC FLOORS

All work guaranteed against disintegration, dusting, and loose bond.

VEN-ITE COMPANY INCORPORATED
General offices: 250 S. Broad St., Philadelphia, Pa.
210 Kinney Bldg., Charlotte, N. C.

SERVICISED

Asphalt Sewer Pipe Jointing Materials



1. PREMOULDED BELTS —

A precast bituminous belt made to exact dimensions to fit and be securely caulked into the bell of any size vitrified tile sewer pipe. The installation feature is of importance in that the labor saving is estimated at 50 per cent.

2. TUFFLEX—A plastic cold troweling product applied as common putty. Factory mixed, furnished in drums ready for use without preparation on the job.

3. HOT POURING ASPHALT COMPOUND—Standard grade and type "A" compounds are produced. The latter, an asphalt type prepared to meet requirements of any specification for a Hot Poured Sewer Joint Compound.

Send for our special bulletin on
Sewer Jointing Materials

SERVICISED PRODUCTS CORPORATION
6051 West 65th Street, Chicago, Ill.

CRUSHED LIMESTONE

Best for All Purposes

We manufacture all sizes of stone suitable for all classes of road building and concrete work where only a high-grade limestone is required.

Quarries opened up in 1912.

Capacity 8000 tons daily.

Four Quarries

Blue Ridge, Va. Pembroke, Va. Pounding Mill, Va.
Boxley, Greensville County, Va.

W. W. BOXLEY & COMPANY

Room 711, Boxley Building, ROANOKE, VA.

MASCOT CHATTS

ASPHALTIC ROADWAY GRAVEL
ROOFING GRAVEL CRUSHED STONE
ASPHALT FILLER DUST



American Limestone Co., Knoxville, Tenn.

Opportunity for the Cotton South

(Continued from page 34)

millions from export sales alone may not seem important. But it is vitally important to the national economy. Such an income in ten years amounts to six billions of dollars—all new economic life blood spread year after year throughout the nation.

No economist believes government can continue spending as it has spent in the recent past. Sooner or later, the people must fall back on a normal earning and purchasing power.

If, in the meanwhile, the cotton South has had to abandon its export market, and its chief income from exports, the whole South will be faced by an entirely new economic equation.

Even under the adverse conditions of the past, the South produced cotton because it was the best paying crop.

Under increasingly adverse conditions, the South will be compelled to turn to other crops.

To assume that the established farm proprietor can do this without difficulty and without economic harm is to assume the impossible. He might turn to food production, but that field is well covered by the Middle West and other sections.

If the established farm proprietor is faced by such a problem, how much greater will be the problem to be faced by the farm tenant in the Cotton Belt who, suddenly and without preparation, shall have been changed by government

into a farm proprietor with a huge debt hanging over him? What will he produce as a cash crop to raise the money the Government will expect him to pay back?

During more than a century the cotton South, as staunch Democrats, in principle opposed the tariff policy of the United States as a distinct economic handicap to the South.

Mr. Roosevelt's strongly entrenched administration, with a complete control over Congress, knows that the United States must lower its tariff wall, in order that it may function efficiently in its new economic environment.

If the cotton South is ever to clear the way for the revival of its chief enterprise on a more satisfactory basis than it has known in the past, the South will join with Mr. Roosevelt and Mr. Hull in demanding a tariff adjustment, which even most high tariff protected enterprises now know is essential to the economic well being of the entire country.

Southern Mines Share in Increased Coal Output

(Continued from page 28)

states, the imposition of heavy taxes on payrolls in the name of Social Security may ultimately lead to the insecurity of employment.

With practically all of the bituminous coal mines operating under wage agreements with the United Mine Workers, the beginning of the new year reveals no imminent danger of any cessation of work

in the coal industry during the first quarter of 1937. The present wage agreement continues to April 1st. During the ensuing months miners and operators are appointing their scale committees to begin their long negotiations which are always extended over a period of several weeks prior to the inauguration of a new wage scale.

During the coming three months there is every reason to believe the bituminous coal industry will have the largest production in several years, that the earnings of employees will be largely increased as a result of continuous work, that the railroads will be taxed to the limit of their transportation facilities and that many related and dependent industries will share in this wider diffusion of purchasing power.

Southern Sugar Growth

(Continued from page 31)

ing on his work. Therefore, the total invested in the Louisiana sugar industry is:

Land	\$20,000,000
Factories	40,000,000
Working capital	15,000,000
Accessories	20,000,000
Total	\$95,000,000

Two sugar factories were erected in Louisiana in 1936—The Magnolia Sugar Co-Operative, Inc., Minerva, \$500,000 and the Evan Hall Sugar Company, Inc., McCall, \$500,000. Possibly three more are projected. The 65 factories now operating have spent \$1,000,000 in repairs and improvements.

THERE IS NO SUBSTITUTE FOR WATER

Allow the supply to be interrupted and the consequences are appalling.

Sterling

High

Duty

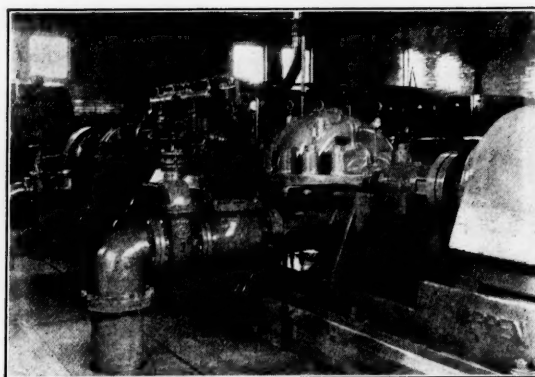


Internal

Combustion

Engines

Gas—Gasoline—
Diesel Oil Engines.



At the Attleboro Water Works, Attleboro, Mass., a Sterling Dolphin C-6 cylinder 300 H.P. engine, direct connected to two 3 stage Warren pumps running at 1550 R.P.M.

Sterling engines are built to pump water in any emergency.

STERLING ENGINE COMPANY

Home Office and Plant
1270 Niagara Street
Buffalo, New York

Dept. C-7

Branch Office
900 Chrysler Bldg.
New York, N. Y.

AMERICAN-MARSH

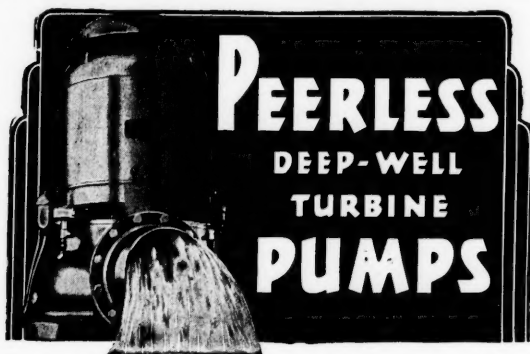
PUMPS

Centrifugal, Steam and Power Pumps in types and sizes to meet every requirement. Built of the finest materials — tested and guaranteed — backed by 63 years' experience.

Whatever your pumping problem, it will pay you to consult us. Write for Bulletins.



AMERICAN STEAM PUMP COMPANY
BATTLE CREEK, MICHIGAN . . . Pumps and Pumps Only Since 1873



"DOUBLE-SEALED"

FOR DOUBLE LIFE

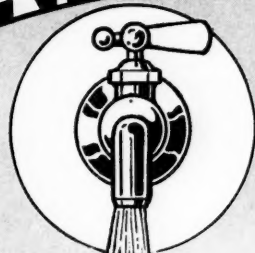
The bowls and runners are the heart of your pump. All the other machinery is simply to make these parts work. Peerless Bowls are "Double-Sealed" against sand-cutting and abrasive wear. Result, high maintained operating efficiency, low power cost, minimum repair expense.

Write for Bulletin P-132 telling the whole remarkable story of Peerless "Double-Seal."

PEERLESS PUMPS

FOOD MACHINERY CORPORATION
1900 East 67th Street, Los Angeles, California
300 Walnut Avenue, Massillon, Ohio

MORE WATER



with

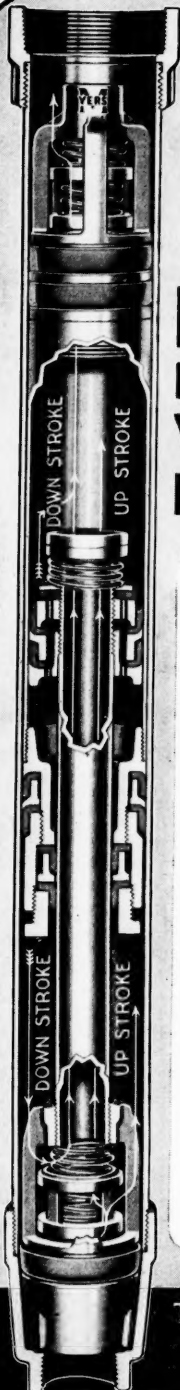
MYERS DOUBLE ACTING WORKING BARRELS

Frequently, when there is a deep well power pump installation to be made, the question of greater volume than can be pumped by an ordinary single acting cylinder bobs up.

Never permit this problem to disturb you for nine times out of ten it can be quickly solved to the entire satisfaction of all concerned by the use of a Myers Double Acting Precision Built Power Cylinder which will actually furnish more water at a lower cost than any similar device on the market.

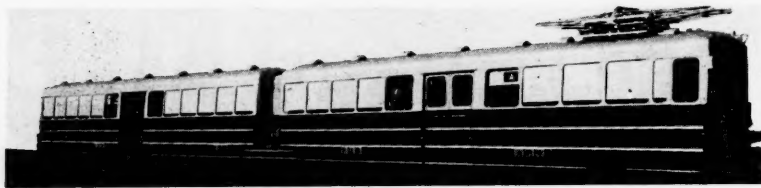
Now built in both Brass and Brass Lined Styles with size range for almost any requirement, these cylinders with their mechanical perfection and care-free operation afford new standards of water service that will be appreciated by anyone who must go deep for his water supply.

Your inquiry will receive prompt attention.



**THE F.E. MYERS & BRO.
COMPANY**
ASHLAND, OHIO.

PUMPS - WATER SYSTEMS - HAY TOOLS - DOOR HANGERS



Modern Cars for the San Francisco Bridge

MODERN cars, streamlined, and light weight, with automatic safety control, will be operated by the Key System over the $8\frac{1}{4}$ mile San Francisco-Oakland Bay Bridge.

Improved heating and ventilating, lighting and use of rubber insulation against noise and shock as well as Pullman type springs will all contribute to the riding ease of the Key System cars.

Twelve of the new articulated two-car units, of a total of 88, have been completed at the Harlan Plant, Wilmington, Del., of the Bethlehem Steel Company. Each unit, an A and B car, has an overall length of 110 feet $5\frac{1}{2}$ inches, is 8 feet 10 inches wide, and has a seating capacity of 124 with 16 additional folding seats available when the side doors are not in use.

Specifications of Bethlehem's "Mayari R" for the body steel, including skirt, sub-floor and equipment supports, reduced the body weight, effecting saving in the

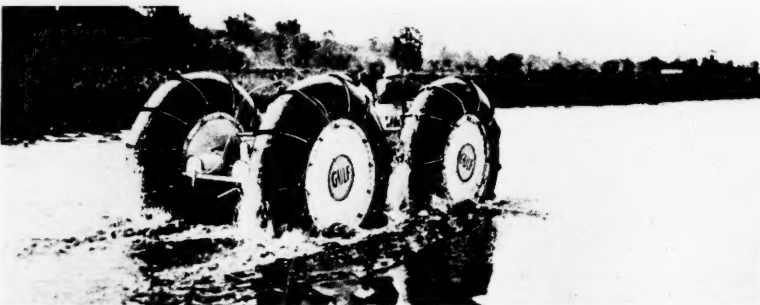
total weight in addition to that which was saved by eliminating one truck in each unit by articulation. Mayari is also resistant to corrosion.

Full automatic cab signals with speed and train control provide both visual and audible signals in the motorman's cab. Control of the train is automatically taken away from the motorman should he disregard the predetermined speed at any given time, and the speed reduced or the train stopped.

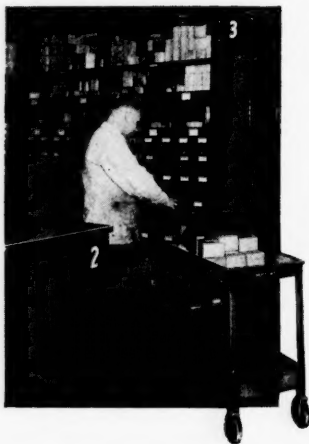
Gulf Oil Announces "Marsh Buggy"

One of the odd things that have had their origin in the research laboratory of Gulf Oil Corporation, Pittsburgh, Pa., is what the company designates as the Gulf Marsh Buggy. Acclaimed by many as "the most unique automotive contraption of the country," the Marsh Buggy cannot be classified as either a motor car, tractor, or boat, as it combines features of all three, being equally at home on land, in waist deep mire, or in water deep enough to float an ocean liner. With an overall length of 22.5 feet, the machine weighs 7500 pounds and is powered by a Ford V-8 engine equipped with an oversized cooling system. Over smooth ground, the vehicle may be operated at a speed of 35 miles per hour, and in marshes between 10 and 12 miles, while its water speed is slightly in excess of 6 knots.

Travels over land, marsh or shallow water



STOCK ROOM HELPER



for less than
a penny a day

What salary would you expect to pay for a helper—practically doubling the work one man can handle—in picking orders, distributing stock of filling parts requisitions?

The Lyon Stock Handling Cart will do this, and keep it up for years at the lowest possible "wage."

The cost is only
\$15.00
f.o.b. Aurora, Ill.

The Lyon Stock Cart is of strong sheet metal construction, in the form shown above, with two shelves, angle steel frame, 2 large diameter swivel casters and 2 easy-rolling wheels. Dark green finish. Manufactured under Lyon standards adds strongly to its value. Send for one as a trial or write for further information.

LYON METAL PRODUCTS

Incorporated

3201 River St.,

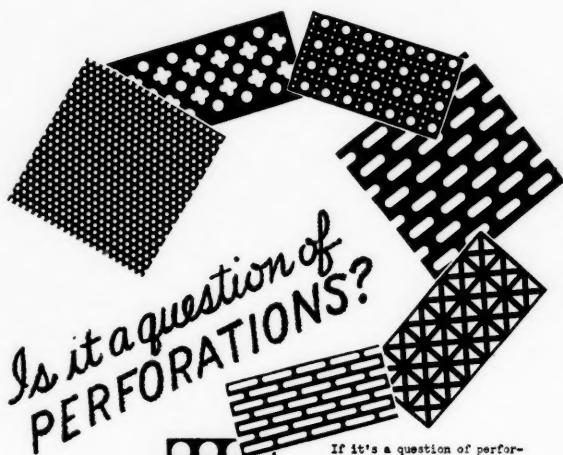
Aurora, Illinois



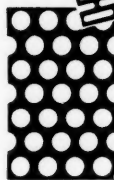
MACHINE SCREWS SQUARE AND HEXAGON NUTS

Specialists in upset work.
Write for prices, if special submit samples
advising as to quantity required.

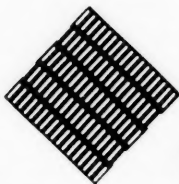
THE PROGRESSIVE MANUFACTURING CO.
TORRINGTON, CONN.



*Is it a question of
PERFORATIONS?*



If it's a question of perforated sheets in Aluminum, Brass, Copper, Steel, Tin or Zinc, and you are interested in buying the best, getting it at once, and at a reasonable price --- ASK ERDLE TO QUOTE.



Erdle will send samples on request, or if you have a special problem to meet Erdle will offer you the accumulated information resulting from 57 long, full years in the perforating field.

ERDLE PERFORATING CO.
171 York St. ROCHESTER, N.Y.



PERFORATED METAL

of every sort

for Screening, Grading, Ventilating or any industrial purpose. Also Grilles of many beautiful designs.

5631 Fillmore St., Chicago, Ill. New York Office: 114 Liberty St.

The Harrington & King

PERFORATING CO.

PERFORATED METALS Screens Grilles

Extensive facilities and long experience make Hendrick the logical source for all perforated metals . . . screen plate with any shape opening, round, square, hexagonal, squarround,* slotted, corrugated . . . heating and ventilating grilles of every description. Hendrick can furnish them in any desired commercially-rolled metal.

*Reg. U. S. Pat. Off.

HENDRICK MANUFACTURING CO.
44 Dundaff Street, Carbondale, Pa.
Manufacturers of Mitco Open Steel Flooring, Mitco Shur-Site Treads and Mitco Armorgrids.

CLAY WORKING MACHINERY

For Brick, Tile and Block,
from smallest to largest capacity.

Write for information

J. C. STEELE & SONS, STATESVILLE, N. C.

MANHATTAN PERFORATED METAL CO., INC.

43 17-37th Street, Long Island City, N. Y.

PERFORATORS

of All Kinds of Metals for All Industries
Write for Copper, Brass, Tin, Zinc or
Aluminum Catalog

LINK-BELT

CHAINS - SPROCKETS

ANTI-FRICTION PILLOW BLOCKS

POWER TRANSMISSION EQUIPMENT

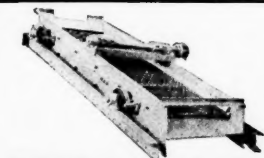
ELEVATORS AND CONVEYORS

Send for General Catalog No. 600

LINK-BELT COMPANY

Atlanta, 1116 Murphy Ave., S. W.

Baltimore Dallas New Orleans Offices in Principal Cities



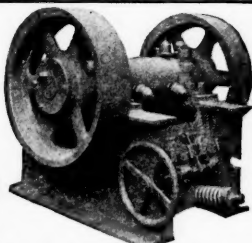
McLanahan Equipment

Single and double roll and jaw crushers, hammer mills, super dry pans,—steel log washers and scrubbers, sand drags, revolving and vibrating screens, elevators, conveyors, dryers, jigs, hoists,—complete portable, semi-portable and stationary crushing, screening and washing plants for different capacities of any materials.

McLanahan & Stone Corporation

Continuously in Business Since 1835

Hollidaysburg, Pennsylvania



PERFORATED SCREEN PLATES AND SHEETS

ORES COAL STONE GRAVEL	for Cotton-Seed Oil Mills, Cotton Gins, Phosphate Mines, Fertilizer Plants, Cyanide Works, Chemical Works.	CEMENT SAND CLAY ETC.
---------------------------------	--	--------------------------------

Write for catalogue

CHARLES MUNDT & SONS

490 JOHNSTON AVE., JERSEY CITY, N. J.

TRADE LITERATURE

(Continued from page 54)

SWITCH YARD CRANE—

Bulletin—illustrating and describing a new light weight crane for use in private switch yards — a two-purpose machine for car-switching and material-handling, powered by the Ford V-8 motor, and known as the "Switcher Crane."
Harnischfeger Corporation, Milwaukee, Wis.

WATER TUBE BOILERS—

Catalog No. 102—illustrating and briefly describing all types of water tube boilers manufactured by—
Edge Moor Iron Works, Edge Moor, Del., and 30 Rockefeller Plaza, New York City.

STEAM TURBINES—

Bulletin No. 1181—illustrating and describing the Allis-Chalmers standard line of high pressure, non-condensing steam turbine units of the three-valve reaction type for

top turbine service, or furnishing steam for high pressure process work.
Allis-Chalmers Manufacturing Company, Steam Turbine Division, Milwaukee, Wis.

INDUSTRIAL WIRING SURVEY—

Form—designed to facilitate investigation of the condition of electrical equipment and wiring in industrial plants from the standpoint of the ability to carry load, surplus or spare capacity, system defects, safety, deterioration and obsolescence; copies available from—

Anaconda Wire and Cable Company, 25 Broadway, New York.

SHEET METAL MACHINERY—

Catalog—sectional, devoted to the Bliss Inclined Open Back Power Presses.
E. W. Bliss Co., Toledo, Ohio.

HARD MAPLE FLOORING—

Folder—devoted to hard maple flooring and prepared for the convenience of architects, contractors, dealers and builders.

Maple Flooring Manufacturers Association, 1799 McCormick Building, Chicago, Ill.

SILENT CHAIN DRIVES—

Data Book No. 125—1936 edition—on Silver-streak silent chain drives of fractional h. p. up to 2000 h. p.
Link-Belt Company, 519 N. Holmes Ave., Indianapolis, Ind.

AGITATING MIXING—

Booklet—1937 edition of Agitator-Mixer Book, illustrating and showing application of paint making equipment, clay working equipment, chemical process equipment and equipment for the food industries—crushing, grinding and mixing machinery.
The Patterson Foundry and Machine Company, East Liverpool, Ohio.

SMITH TILTERS—

Catalog—illustrating and describing various types and sizes of Smith Tilters—"the mixers that poured Boulder Dam."
The T. L. Smith Company, Milwaukee, Wis.

(Continued on page 68)

1905
Strand
1936

FLEXIBLE SHAFT MACHINES

FOR MANY OPERATIONS
YOU CAN'T GO WRONG WITH THE STRAND



Type M 1



Type M 2

THEY MAKE GOOD
MANY TYPES AND SIZES
1/8 to 2 H.P.
HORIZONTAL
OR
VERTICAL
SEND FOR CATALOG
Manufactured By
N. A. STRAND & CO.
5001-5009 N. Lincoln St., Chicago, Ill.



CLEAN PRECISE CASTINGS

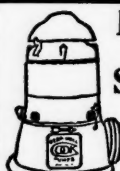
Iron, Brass, Bronze, Aluminum, Alloys.
Modernly Equipped Foundries, Machine
and Pattern Shops.
Quantity Production and Contract Work a Specialty.



THE **RICHMOND**
FOUNDRY & MANUFACTURING CO. INC.
RICHMOND, VIRGINIA.
"A Dependable Source of Supply"

JOHNSON WELL SCREENS

Will make better wells because they are tailor-made to fit any kind of sand or gravel formations and to resist the corrosion of any water.
Write for Bulletin M-1053. Contains valuable information about water wells.
Edward E. Johnson, Inc., St. Paul, Minn.



Pumps—Deep-Well Plunger and Turbine
Strainers—and other well supplies
WATER PRESSURE SYSTEMS
A. D. COOK, INC.
Lawrenceburg, Indiana

EARLE

The Earle Gear & Machine Co.
4719 Stenton Ave.,
Philadelphia, Pa.
110 State St., Boston, Mass.
149 Broadway, New York City

Cut Spur, Bevel, Herringbone, and Worm Gears
All sizes. Every description. Operating Machinery for Bridges, etc.
"Les Simpler" Cold Metal Saws.

GEARS

GALVANIZING

(NOT DIPPED PROCESS)
The largest job galvanizing plant in the United States
GALVANIZED PRODUCTS FURNISHED
Joseph P. Cattie & Bros., Philadelphia, Pa.

ENVELOPES

Direct from Manufacturer to Consumer



**GLUE-LOCKED
ENVELOPES**

PLAIN and
PRINTED
All Sizes
and Styles

OLES ENVELOPE CORP.

2510 Loch Raven Road, Baltimore, Md.
Sales Offices, Washington, D. C., Atlanta, Ga.

THE OSCAR T. SMITH & SON CO.

Manufacturing

BANK AND COMMERCIAL STATIONERS

407-9-11 E. Saratoga Street
BALTIMORE, MD.

CHARACTER

QUALITY

—SERVICE—